# Section

# K

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# HIGHWAY GRADE CROSSING PROTECTIVE DEVICES

Please file Title Sheet, Table of Contents and Plate K-009 in the front of Section "K" Catalog immediately after the index tab.
(Balance of Plates are to be filed in proper sequence)


**Union Switch & Signal Co.**

Swissvale, Pa.

June, 1935

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UNION SWITCH & SIGNAL
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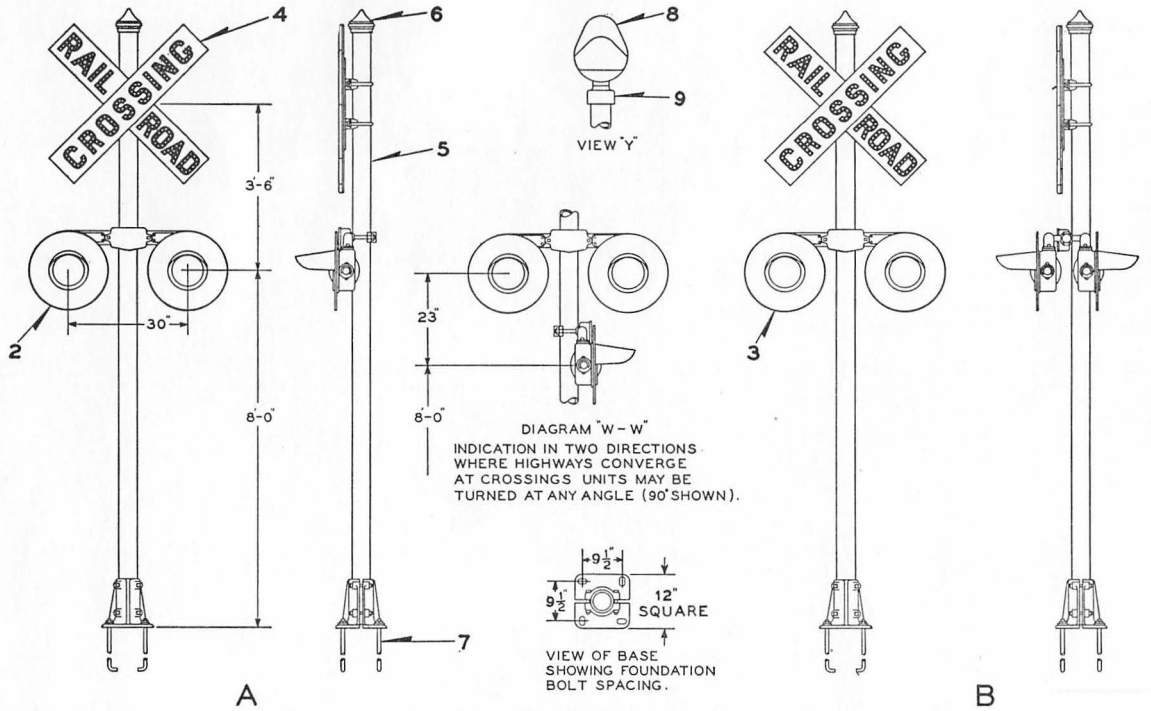


# Highway Crossing Signals with Railroad Crossing Sign

# Highway Crossing Signals

## EQUIPPED WITH STYLE "HC-81" LAMP UNITS AND RAILROAD CROSSING SIGN

**Unless otherwise specified, signals will be furnished as follows:**

(a) Combined Junction Box and Cross Arm
(b) 4″ Pipe Post with base
(c) Pinnacle as shown
(d) Lamp Units equipped with 30° horizontal spreadlite cover glass, 15° downward deflection
(e) 10 Volt, 18 Watt Lamps
(f) 1″ Foundation Bolts (Orders should specify length desired)
(g) Dimensions as shown
(h) 90° reflector button type Railroad Crossing Sign. Black letters on white background, lettering on one side only.

**If any of the following material is desired, orders should so state:**

(a) Crossing Bell per View "Y"
  (1) Style "15A" D.C. Crossing Bell, Plate K-80
  (2) Style "AH-10" A.C. Crossing Bell, Plate K-91
(b) 1¼″ Pipe Cross Arm, Plate K-196
(c) Cast Iron Railroad Crossing Sign, Plate K-168
(d) Reflex-Reflecting type Railroad Crossing Sign, Plates K-180 and K-185
(e) Phankill Unit, Plate K-159
(f) Cover Glass other than 30° horizontal spreadlite, 15° downward deflection, Plate K-159 (references 38a to 38d inclusive)
(g) Lens Guard, Plate K-220
(h) Junction Box with Pilot Lights, Plate K-137
(j) Combined Base and Terminal Box, Plate K-152

**If a signal arranged per Diagram "W-W" is desired, orders should so state giving angle of convergence.**

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | A | **Highway Crossing Signal Complete** as shown for indication in one direction. Equipped as specified in plate heading | B–8912– |
| | B | **Highway Crossing Signal Complete** as shown for indication in two directions. Equipped as specified in plate heading | B–8912– |
| | 2 | **Two Style "HC-81" Lamp Units and Combined Junction Box and Cross Arm Complete.** For details refer to Plate K-151 | B–8912– |
| | 3 | **Four Style "HC-81" Lamp Units and Combined Junction Box and Cross Arm Complete.** For details refer to Plate K-151 | B–8912– |
| 192180 | 4 | **90° Reflector Button Type Railroad Crossing Sign Complete.** For details refer to Plate K-175 | C–9451–4 |

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# Highway Crossing Signals

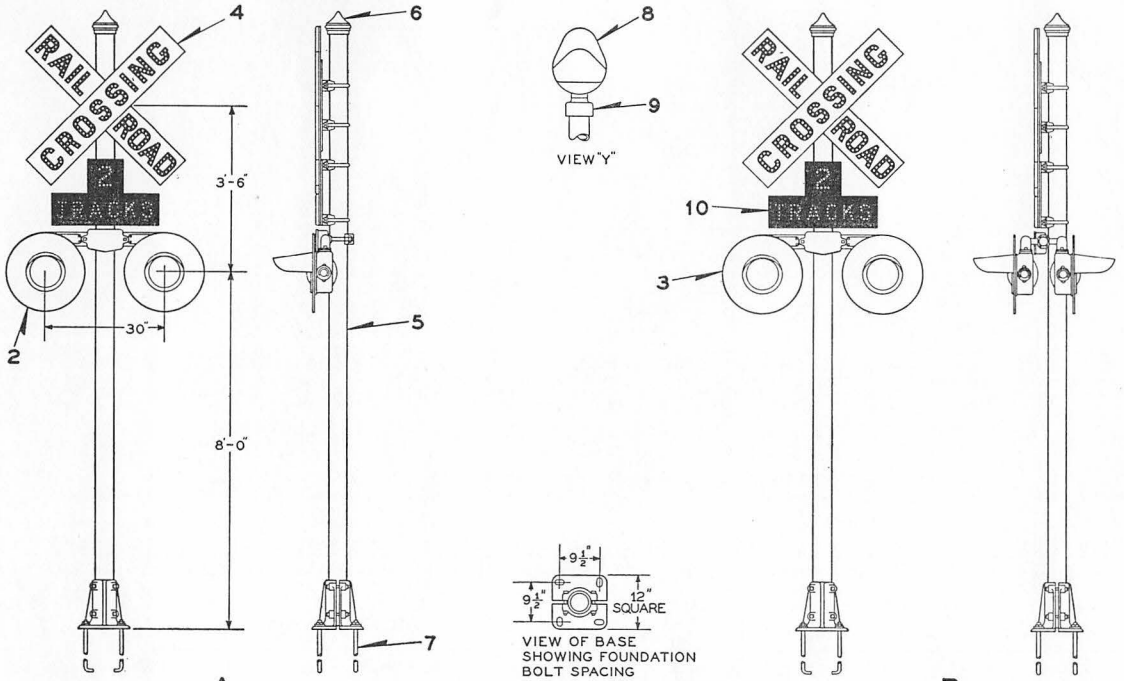
## EQUIPPED WITH STYLE "HC-81" LAMP UNITS AND RAILROAD CROSSING SIGN

(Continued)

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | 5 | 4″ **Pipe Post** with Base. (Orders should specify length, drilling and type of Cross Arm to be used) | B-9893- |
| 136947 | 5a | **Clamp Base Complete.** For details refer to Plate K-196 | C-6634-7 |
| 145739 | 6 | **Pinnacle** | B-8121-10 |
| | 7 | **Foundation Bolt** Ref. 7b with 1″ Hex. Nut (C.N. 48034) and 1″ Plate Washer (C.N. 47509). | |
| | 7a | **Foundation Bolt** Ref. 7c with 1″ Hex. Nut (C.N. 48034) and 1″ Plate Washer (C.N. 47509). | |
| 10265 | 7b | **Foundation Bolt Only,** 1″x2′-0″ | 7913-52 |
| 10276 | 7c | **Foundation Bolt Only,** 1″x3′-0″ | 7913-54 |
| | 8 | **Crossing Bell Complete.** When ordering assemblies or details refer to Plate K-80 or K-91. | |
| 82254 | 9 | **Adapter** for mounting Crossing Bell on 4″ Pipe Post. | C-6041-10 |

PLATE **K-011**




# Highway Crossing Signals with Railroad Crossing and Tracks Signs

UNION SWITCH & SIGNAL
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# Highway Crossing Signals

## EQUIPPED WITH STYLE "HC-81" LAMP UNITS, RAILROAD CROSSING AND TRACKS SIGNS

**Unless otherwise specified, signals will be furnished as follows:**

(a) Combined Junction Box and Cross Arm
(b) 4″ Pipe Post with base
(c) Pinnacle as shown
(d) Lamp Units equipped with 30° horizontal spreadlite cover glass, 15° downward deflection
(e) 10 Volt, 18 Watt Lamps
(f) 1″ Foundation Bolts (Orders should specify length desired)
(g) Dimensions as shown
(h) 90° reflector button type Railroad Crossing Sign. Black letters on white background, lettering on one side only.
(j) Reflector button type Tracks Sign. White numeral and letters on black background. (Orders should specify numeral desired).

**If any of the following material is desired, orders should so state:**

(a) Crossing Bell per View "Y"
  (1) Style "15A" D.C. Crossing Bell, Plate K-80
  (2) Style "AH-10" A.C. Crossing Bell, Plate K-91
(b) 1¼″ Pipe Cross Arm, Plate K-196
(c) Cast Iron Railroad Crossing Sign, Plate K-168
(d) Reflex-Reflecting type Railroad Crossing Sign, Plates K-180 and K-185
(e) Cast Iron Tracks Sign, Plate K-168
(f) Reflex-Reflecting type Tracks Sign, Plates K-180 and K-185
(g) Phankill Unit, Plate K-159
(h) Cover Glass other than 30° horizontal spreadlite, 15° downward deflection, Plate K-159 (references 38a to 38d inclusive)
(j) Lens Guard, Plate K-220
(k) Junction Box with Pilot Lights, Plate K-137
(m) Combined Base and Terminal Box, Plate K-152

**If a signal arranged per Diagram "W-W" of Plate K-010 is desired, orders should so state giving angle of convergence.**

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | A | **Highway Crossing Signal Complete** as shown for indication in one direction. Equipped as specified in plate heading (Orders should specify numeral desired on Tracks Sign) | B–8912– |
| | B | **Highway Crossing Signal Complete** as shown for indication in two directions. Equipped as specified in plate heading (Orders should specify numeral desired on Tracks Sign) | B–8912– |
| | 2 | **Two Style "HC-81" Lamp Units and Combined Junction Box and Cross Arm Complete.** For details refer to Plate K-151 | B–8912– |

# Highway Crossing Signals

## EQUIPPED WITH STYLE "HC-81" LAMP UNITS
## RAILROAD CROSSING AND TRACK SIGNS

(Continued)

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | 3 | **Four Style "HC-81" Lamp Units and Combined Junction Box and Cross Arm Complete.** For details refer to Plate K-151 | B–8912– |
| 192180 | 4 | **90° Reflector Button Type Railroad Crossing Sign Complete.** For details refer to Plate K-175 | C–9451–4 |
| | 5 | **4″ Pipe Post** with Base. (Orders should specify length, drilling, and type of Cross Arm to be used) | B–9893– |
| 136947 | 5a | **Clamp Base Complete.** For details refer to Plate K-196 | C–6634–7 |
| 145739 | 6 | **Pinnacle** | B–8121–10 |
| | 7 | **Foundation Bolt** Ref. 7b with 1″ Hex. Nut (C.N. 48034) and 1″ Plate Washer (C.N. 47509) | |
| | 7a | **Foundation Bolt** Ref. 7c with 1″ Hex. Nut (C.N. 48034) and 1″ Plate Washer (C.N. 47509) | |
| 10265 | 7b | **Foundation Bolt Only,** 1″x2′-0″ | 7913–52 |
| 10276 | 7c | **Foundation Bolt Only,** 1″x3′-0″ | 7913–54 |
| | 8 | **Crossing Bell Complete** (When ordering assemblies or details refer to Plate K-80 or K-91) | |
| 82254 | 9 | **Adapter** for mounting Crossing Bell on 4″ Pipe Post. | C–6041–10 |
| 192138 | 10 | **Reflector Button Type Tracks Sign Complete.** Orders should specify numeral desired. For details refer to Plate K-175 | C–9451–3 |

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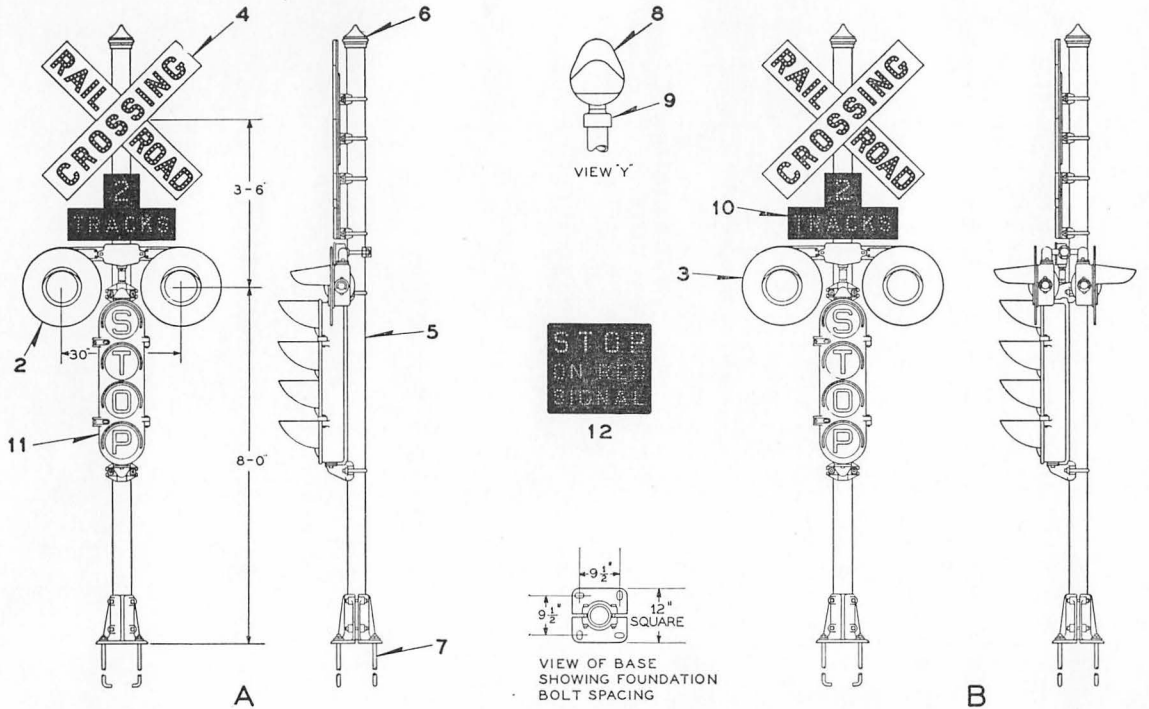


# Highway Crossing Signals with Railroad Crossing, Tracks and Stop Signs

# Highway Crossing Signals

## EQUIPPED WITH STYLE "HC-81" LAMP UNITS, RAILROAD CROSSING, TRACKS AND STOP SIGNS

**Unless otherwise specified, signals will be furnished as follows:**

(a) Combined Junction Box and Cross Arm
(b) 4″ Pipe Post with base
(c) Pinnacle as shown
(d) Lamp Units equipped with 30° horizontal spreadlite cover glass, 15° downward deflection
(e) 10 Volt, 18 Watt Lamps
(f) 1″ Foundation Bolts (Orders should specify length desired)
(g) Dimensions as shown
(h) 90° reflector button type Railroad Crossing Sign. Black letters on white background, lettering on one side only.
(j) Reflector button type Tracks sign. White numeral and letters on black background (Orders should specify numeral desired)
(k) Stop Sign
  (1) Illuminated type with red letters
  (2) Reflector button type with white letters on black background

**If any of the following material is desired, orders should so state:**

(a) Crossing Bell per View "Y"
  (1) Style "15A" D.C. Crossing Bell, Plate K-80
  (2) Style "AH-10" A.C. Crossing Bell, Plate K-91
(b) 1¼″ Pipe Cross Arm, Plate K-196
(c) Cast Iron Railroad Crossing Sign, Plate K-168
(d) Reflex-Reflecting type Railroad Crossing Sign, Plates K-180 and K-185
(e) Cast Iron Tracks Sign, Plate K-168
(f) Reflex-Reflecting type Tracks Sign, Plates K-180 and K-185
(g) Reflex-Reflecting type Stop Sign, Plates K-180 and K-185
(h) Phankill Unit, Plate K-159
(j) Cover Glass other than 30° horizontal spreadlite, 15° downward deflection, Plate K-159 (Refs. 38a to 38d inclusive)
(k) Lens Guard, Plate K-220
(m) Junction Box with Pilot Lights, Plate K-137
(n) Combined Base and Terminal Box, Plate K-152

**If a signal arranged per diagram "W-W" of Plate K-010 is desired, orders should so state giving angle of convergence**

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | A | **Highway Crossing Signal Complete** as shown for indication in one direction. Equipped as specified in plate heading (Orders should specify numeral desired on Tracks Sign) | B–8912– |
| | Aa | **Highway Crossing Signal Complete** as shown except with reflector button type "STOP ON RED SIGNAL" Sign, for indication in one direction. Equipped as specified in plate heading (Orders should specify numeral desired on Tracks Sign) | B–8912– |
| | B | **Highway Crossing Signal Complete** as shown for indication in two directions. Equipped as specified in plate heading (Orders should specify numeral desired on Tracks Sign) | B–8912– |

# Highway Crossing Signals

## EQUIPPED WITH STYLE "HC-81" LAMP UNITS RAILROAD CROSSING, TRACKS AND STOP SIGNS

**(Continued)**

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | **Ba** | **Highway Crossing Signal Complete** as shown except with reflector button type "STOP ON RED SIGNAL" Sign, for indication in two directions. Equipped as specified in plate heading (Orders should specify numeral desired on Tracks Sign).. | B–8912– |
| | **2** | **Two Style "HC-81" Lamp Units and Combined Junction Box and Cross Arm Complete.** For details refer to Plate K-151 | B–8912– |
| | **3** | **Four Style "HC-81" Lamp Units and Combined Junction Box and Cross Arm Complete.** For details refer to Plate K-151 | B–8912– |
| **192180** | **4** | **90° Reflector Button Type Railroad Crossing Sign Complete.** For details refer to Plate K-175 | C–9451–4 |
| | **5** | **4″ Pipe Post** with Base. (Orders should specify length, drilling and type of Cross Arm to be used). | B–9893– |
| **136947** | **5a** | **Clamp Base Complete.** For details refer to Plate K-196 | C–6634–7 |
| **145739** | **6** | **Pinnacle** | B–8121–10 |
| | **7** | **Foundation Bolt** Ref. 7b with 1″ Hex. Nut (C.N. 48034) and 1″ Plate Washer (C.N. 47509) | |
| | **7a** | **Foundation Bolt** Ref. 7c with 1″ Hex. Nut (C.N. 48034) and 1″ Plate Washer (C.N. 47509) | |
| **10265** | **7b** | **Foundation Bolt Only,** 1″x2′-0″ | 7913–52 |
| **10276** | **7c** | **Foundation Bolt Only,** 1″x3′-0″ | 7913–54 |
| | **8** | **Crossing Bell Complete** (When ordering assemblies or details refer to Plate K-80 or K-91) | |
| **82254** | **9** | **Adapter** for mounting Crossing Bell on 4″ Pipe Post | C–6041–10 |
| **192138** | **10** | **Reflector Button Type Tracks Sign Complete.** Orders should specify numeral desired. For details refer to Plate K-175 | C–9451–3 |
| **148922** | **11** | **Style "HC-42" Illuminated Stop Sign Complete.** For details refer to Plate K-130 | C–9208–1 |
| **192119** | **12** | **Reflector Button Type "Stop on Red Signal" Sign Complete.** For details refer to Plate K-175 | C–9451–1 |

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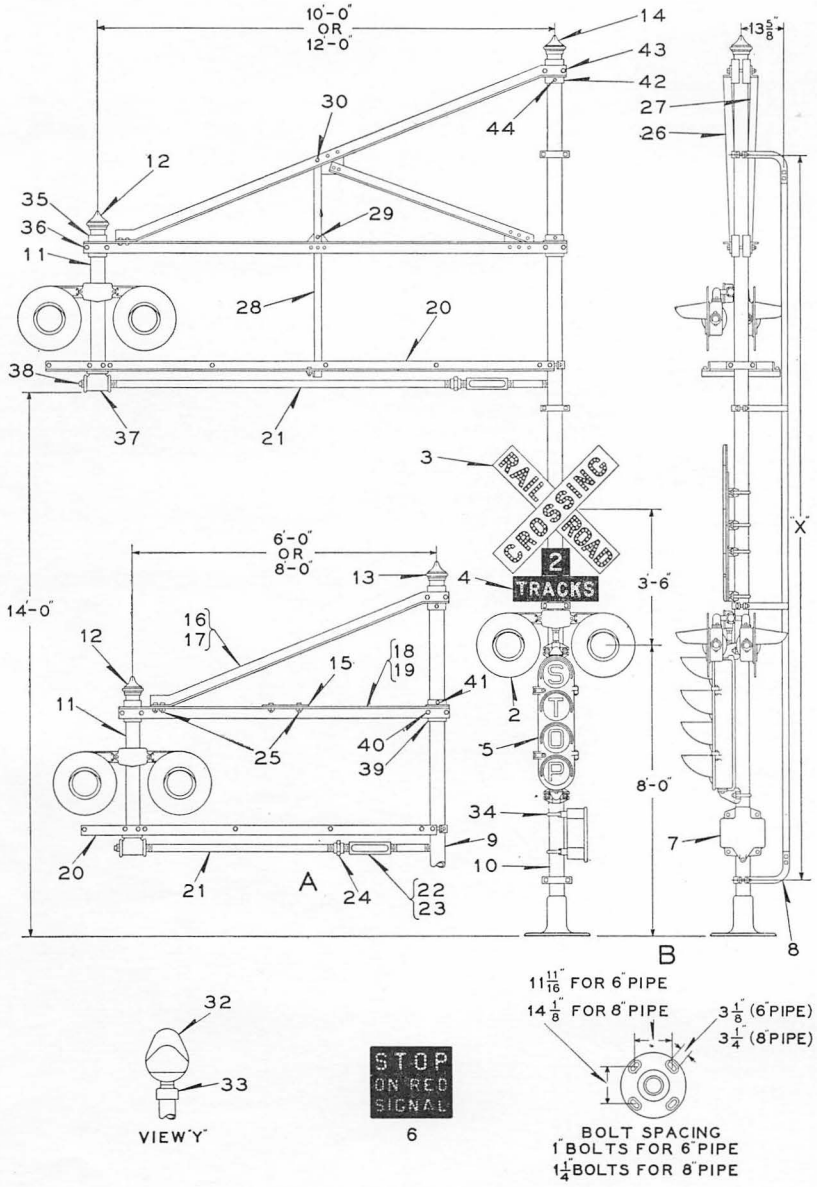



# Highway Crossing Signals Cantilever Type

# Highway Crossing Signals

## CANTILEVER TYPE

Unless otherwise specified, signals will be furnished as follows:

(a) Combined Junction Box and Cross Arm
(b) Pipe Post
  (1) 6″ Extra strong pipe with base for main post of 6′-8′ spans
  (2) 8″ Pipe with base for main post of 10′-12′ spans
  (3) 4″ Pipe for post mounted on cantilever
(c) Pinnacles as shown
(d) Lamp Units equipped with 30° horizontal spreadlite cover glass, 15° downward deflection
(e) 10 Volt, 18 Watt Lamps
(f) Foundation Bolts
  (1) 1″ for 6′-8′ spans
  (2) 1¼″ for 10′-12′ spans
(g) Dimensions as shown
(h) 90° reflector button type Railroad Crossing Sign. Black letters on white background, lettering on one side only.
(j) Reflector button type Tracks Sign. White numerals and letters on black background (Orders should specify numeral desired)
(k) Stop Sign
  (1) Illuminated type with red letters
  (2) Reflector button type with white letters on black background.

If any of the following material is desired, orders should so state:

(a) Crossing Bell per View "Y"
  (1) Style "15A" D.C. Crossing Bell, Plate K-80
  (2) Style "AH-10" A.C. Crossing Bell, Plate K-91
(b) 1¼″ Pipe Cross Arm, Plate K-196
(c) Cast Iron Railroad Crossing Sign, Plate K-168
(d) Reflex-Reflecting type Railroad Crossing Sign, Plates K-180 and K-185
(e) Cast Iron Tracks Sign, Plate K-168
(f) Reflex-Reflecting type Tracks Sign, Plates K-180 and K-185
(g) Reflex-Reflecting type Stop Sign, Plates K-180 and K-185
(h) Phankill Unit, Plate K-159
(j) Cover Glass other than 30° horizontal spreadlite, 15° downward deflection, Plate K-159 (Refs. 38a to 38d inclusive)
(k) Lens Guard, Plate K-220
(m) Junction Box with Pilot Lights, Plate K-137

If a signal arranged per diagram "W-W" of Plate K-010 is desired, orders should so state giving angle of convergence.

Order by Plate, Piece, Reference and Abbreviated
Description Given in Heavy Face Type Only

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | A | **6′-0″ or 8′-0″ Span Cantilever Type Highway Crossing Signal Complete** as shown for indication in two directions. Equipped as specified in plate heading (Orders should specify span dimension and numeral desired on Tracks Sign) . . . . . | B–8912– |

# Highway Crossing Signals

## CANTILEVER TYPE

(Continued)

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | Aa | **6′-0″ or 8′-0″ Span Cantilever Type Highway Crossing Signal Complete** as shown except with reflector button type "STOP ON RED SIGNAL" Sign, for indication in two directions. Equipped as specified in plate heading (Orders should specify span dimension and numeral desired on Tracks Sign) | B–8912– |
| | B | **10′-0″ or 12′-0″ Span Cantilever Type Highway Crossing Signal Complete** as shown for indication in two directions. Equipped as specified in plate heading (Orders should specify span dimension and numeral desired on Tracks Sign) | B–8912– |
| | Ba | **10′-0″ or 12′-0″ Span Cantilever Type Highway Crossing Signal Complete** as shown except with reflector button type "STOP ON RED SIGNAL" Sign, for indication in two directions. Equipped as specified in plate heading (Orders should specify span dimension and numeral desired on Tracks Sign) | B–8912– |
| | 2 | **Four Style "HC-81" Lamp Units and Combined Junction Box and Cross Arm Complete.** For details refer to Plate K-151 | B–8912– |
| 192180 | 3 | **90° Reflector Button Type Railroad Crossing Sign Complete.** For details refer to Plate K-175 | C–9451–4 |
| 192138 | 4 | **Reflector Button Type Tracks Sign Complete.** Orders should specify numeral desired. (For details refer to Plate K-175) | C–9451–3 |
| 148922 | 5 | **Style "HC-42" Illuminated Stop Sign Complete.** For details refer to Plate K-130 | C–9208–1 |
| 192119 | 6 | **Reflector Button Type "Stop on Red Signal" Sign Complete.** For details refer to Plate K-175 | C–9451–1 |
| 217612 | 7 | **Terminal Box Complete** | C–6676–43 |
| | 8 | **Ladder Complete** (Orders should specify "X" dimension and size of pipe) | B–10313– |
| | 9 | **6″ Extra Strong Pipe Post** with Base. For 6′ and 8′ spans. (Orders should specify length, drilling and type of Cross Arm to be used) | B–9893– |

# Highway Crossing Signal

## CANTILEVER TYPE

**(Continued)**

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | 10 | **8″ Pipe Post** with Base. For 10′ and 12′ spans. (Orders should specify length, drilling and type of Cross Arm to be used) | B–9893– |
| | 11 | **4″ Pipe Post** with Tee. (Orders should specify length and drilling desired and type of Cross Arm to be used) | B–9893– |
| **145739** | 12 | **Pinnacle** for 4″ Pipe Post | B–8121–10 |
| **168877** | 13 | **Pinnacle** for 6″ Extra Strong Pipe Post | B–8121–18 |
| **215093** | 14 | **Pinnacle** for 8″ Pipe Post | B–8121–19 |
| **209980** | 15 | **Gusset Plate** | 9999–1384 |
| | 16 | **R.H. Brace** (Orders should specify span of signal) | C–4107– |
| | 17 | **L.H. Brace** (Orders should specify span of signal) | C–4107– |
| | 18 | **R.H. Cross Tie** (Orders should specify span of signal) | C–4107– |
| | 19 | **L.H. Cross Tie** (Orders should specify span of signal) | C–4107– |
| | 20 | **Platform Complete** (Orders should specify span of signal and size of pipe) | B–7501– |
| | 21 | **2″ Pipe,** threaded both ends (Orders should specify length desired) | B–10919– |
| | 22 | **2″ Galv. Condulet** (C.N. 69510) | |
| | 23 | **Condulet Cover** (C.N. 69826) | |
| | 24 | **2″ M.I. Galv. Male and Female Union** (C.N. 33511) | |
| | 25 | **Bolt,** $\frac{5}{8}$″x1$\frac{1}{2}$″ Sq. Hd. (C.N. 46695) (Cad. Pl.) with $\frac{5}{8}$″ Hex. Nut (C.N. 48020) (Cad. Pl.) | |
| | 26 | **R.H. Structure Support Complete** (Orders should specify span of signal) | C–4107– |
| | 27 | **L.H. Structure Support Complete** (Orders should specify span of signal) | C–4107– |
| | 28 | **Channel Support** (Orders should specify span of signal) | C–4107– |

# Highway Crossing Signal

## CANTILEVER TYPE

**(Continued)**

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | 29 | **Bolt,** ¾″x2″ Sq. Hd. S. (C.N. 46725) with ¾″ Hex. Nut (C.N. 48026) (Cad. Pl.), ¾″ Plain S. Lock Washer (C.N. 47772) (Cad. Pl.) and Washer Ref. 29a | |
| 107911 | 29a | **Cast Washer** | 8065–180 |
| | 30 | **Bolt,** ¾″x2½″ Sq. Hd. S. (C.N. 46727) with ¾″ Hex. Nut (C.N. 48026) (Cad. Pl.), ¾″ Plain S. Lock Washer (C.N. 47772) (Cad. Pl.) and Washer Ref. 29a | |
| | 31 | **Bolt,** ¾″x1½″ Sq. Hd. (C.N. 46723) with ¾″ Hex. Nut (C.N. 48026) (Cad. Pl.) and ¾″ Plain S. Lock Washer (C.N. 47772) (Cad. Pl.) for attaching channel support to platform (Not shown) | |
| | 32 | **Crossing Bell Complete** (When ordering refer to Plate K-80 or K-91) | |
| 215366 | 33 | **Adapter** for 6″ Pipe | C–6041–21 |
| 215108 | 33a | **Adapter** for 8″ Pipe | C–6041–21 |
| | 34 | **U-Bolt** Ref. 34b with ⅝″ Hex. Nut (C.N. 48020) (Cad. Pl.) for attaching terminal box to 6″ Pipe | |
| | 34a | **U-Bolt** Ref. 34c with ⅝″ Hex. Nut (C.N. 48020) (Cad. Pl.) for attaching terminal box to 8″ Pipe | |
| 109746 | 34b | **U-Bolt Only,** for 6″ Pipe | 8782–37 |
| 215117 | 34c | **U-Bolt Only,** for 8″ Pipe | 8782–220 |
| 15587 | 35 | **Clamp** (Half) for 4″ Pipe | C–4107–3 |
| | 36 | **Bolt,** ½″x7½″ Sq. Hd. S. (C.N. 46683) with ½″ Hex. Nut (C.N. 48013) (Cad. Pl.) and ½″ Plain S. Lock Washer (C.N. 47769) (Cad. Pl.) | |
| | 37 | **Tee,** 2″x2″x4″ C.I. (C.N. 33239) | |
| | 38 | **Pipe Plug,** 2″ C.I. (C.N. 32915) | |
| 34757 | 39 | **Clamp** (Half) for 6″ Pipe | C–4107–7 |
| | 40 | **Bolt,** ⅝″x10″ Sq. Hd. S. (C.N. 46854) with ⅝″ Hex. Nut (C.N. 48020) (Cad. Pl.) and ⅝″ Plain S. Lock Washer (C.N. 47771) (Cad. Pl.) | |

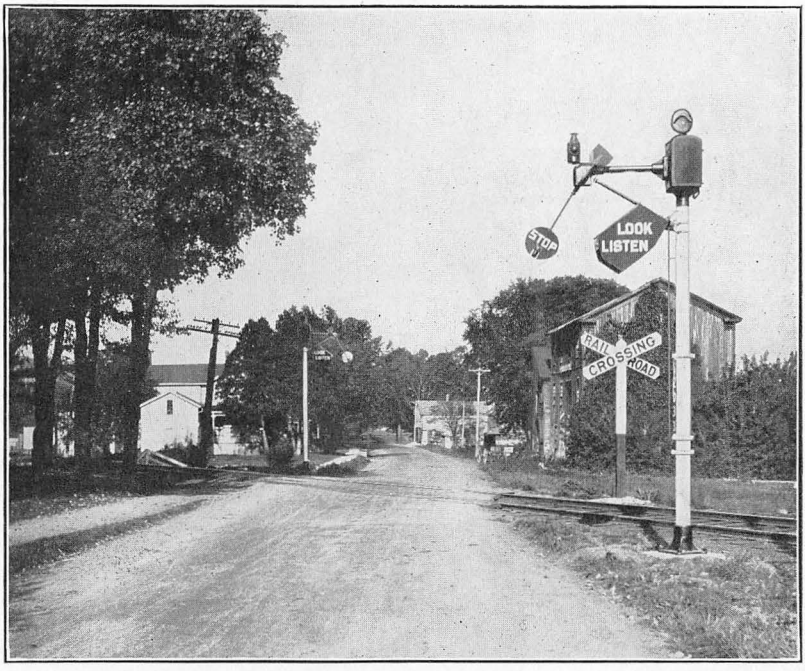
# Highway Crossing Signal

## CANTILEVER TYPE

(Continued)

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | 41 | **Tap Bolt,** ½″x1¼″ Hex. Hd. S. (C.N. 46447) | |
| 215104 | 42 | **Clamp** (Half) for 8″ Pipe | C–4107–23 |
| | 43 | **Bolt** Ref. 43a with ¾″ Hex. Nut (C.N. 48026) (Cad. Pl.) and ¾″ Plain S. Lock Washer (C.N. 47772) (Cad. Pl.) | |
| 288965 | 43a | **Bolt Only** | 8132–208 |
| | 44 | **Tap Bolt,** ¾″x1¼″ Hex. Hd. (C.N. 46476) | |
| | 45 | **Foundation Bolt** Ref. 45b with 1″ Hex. Nut (C.N. 48034) and 1″ Plate Washer (C.N. 47509) for 6′-8′ spans | |
| | 45a | **Foundation Bolt** Ref. 45c with 1¼″ Hex. Nut (C.N. 48043 and 1¼″ Plate Washer (C.N. 47510) for 10′-12′ spans | |
| 122296 | 45b | **Foundation Bolt Only,** 1″x3′-0″ | 7913–54 |
| 232960 | 45c | **Foundation Bolt Only,** 1¼″x3′-6″ | 7913–215 |



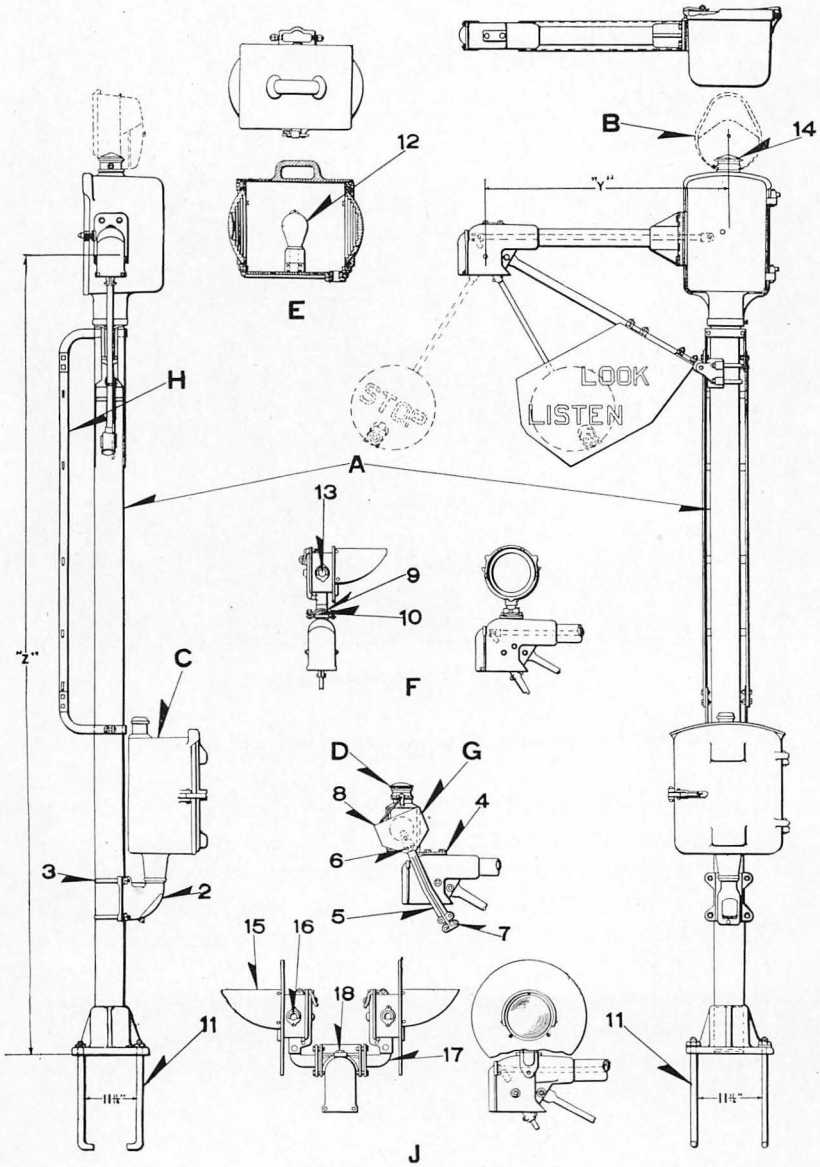

**Style "DW" Automatic Flagman**

## STYLE "DW" AUTOMATIC FLAGMAN

An arrestive indication is displayed by the Union Style DW Automatic Flagman. The mechanism is of the magnetically operated type, substantially constructed and provides three indications, viz., "Stop" (arm swinging), "Clear" (arm held behind shield), and "Out of Order" (arm stationary, suspended vertically). This signal is supplied for operation on either direct or alternating current and may readily be used in combination with bells, crossing signs, or other required attachments. Bulletin No. 86 describes this type of signal and complete catalog references are given on Plates K-1 to K-51 of this catalog.

PLATE K-1

UNION SWITCH & SIGNAL CO.




STYLE "DW" AUTOMATIC FLAGMAN (D. C.) COMPLETE

UNION SWITCH & SIGNAL CO.

## STYLE "DW" AUTOMATIC FLAGMAN (D. C.) COMPLETE

**For Detail View of Base Casting See Plate K-3**

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Style "DW" Automatic Flagman D. C., complete, Dwg. E-2999 Sh. 5 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Piece | Reference | Distance from bottom of Sig. to center of Extension Arm "Z" | Length of Extension Arm "Y" | D.C. Operating Voltage | Relay Box Ref. "C" | Crossing Bell Ref. "B" | Stationary Lamp | Ladder Ref. | Remarks |
| 79595 | A | 15′ 0″ | 4′ 0″ | 10 | With | Without | Without | H | |
| 97098 | Aa | " | " | " | " | " | Ref. Da | H | |
| 111707 | Ab | " | " | " | Without | " | Without | Without | |
| 112987 | Ac | " | " | " | With | " | " | " | Lettered in French and English |
| 113623 | Ad | " | " | 8 | Without | Arranged for Locomotive Type | " | " | Without Post and Pinnacle |
| 113896 | Ae | 15′ 0″ | " | 10 | With | Without | " | " | Equip'd with Crossing Sign Ref. Bb, Pl. K-97 Clamps for 5″ Pipe |
| 116743 | Af | " | " | " | Without | With | Arranged for Oil Lamp | Ha | With Mask Ref. Da and L. B. Ref. 4a |
| 126826 | Ag | " | " | " | " | Without | Highway Crossing Light | Without | Lamp Unit Ref. Aa, Pl. K-107 |
| 75875 | Ah | 18′ 5″ | 6′ | " | With | " | Without | " | |
| 76414 | Aj | 17′ 7″ | " | " | " | " | " | " | |
| 76415 | Ak | 16′ 10″ | " | 8 | " | " | " | " | Arranged for Crossing Bell No. 222B |
| 120582 | Am | 19′ 0″ | " | 10 | " | " | Arranged for Oil Lamp | Ha | |
| 117159 | An | 20′ 0″ | " | " | Without | " | Without | Hb | With Ladder Platform and Hand Rail |

UNION SWITCH & SIGNAL CO.

## STYLE "DW" AUTOMATIC FLAGMAN (D. C.) COMPLETE
For Detail View of Base Casting See Plate K-3
(Continued)

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | B | **Crossing Bell** (See Plates K-80 D.C. and K-91 A.C.) | |
| 119555 | C | **Relay Box** | C–7976–20 |
| 111566 | D | **Stationary Oil Burning Lamp,** with $\frac{7}{16}$″x2$\frac{1}{16}$″ Socket for $\frac{3}{8}$″x2″ Bracket | B–9224–3 |
| 112157 | Da | **Stationary Oil Burning Lamp,** with $\frac{9}{16}$″x2$\frac{1}{16}$″ Socket for $\frac{1}{2}$″x2″ Bracket | B–9224–27 |
| 113725 | E | **Stationary Electric Lamp,** with Two Red Lenses with $\frac{9}{16}$″x2$\frac{1}{16}$″ Socket for $\frac{1}{2}$″x2″ Bracket (without Bulb) | B–9224–39 |
| | F | **Stationary Style "HC-2" Electric Lamp Unit** with Mounting Fittings and Lamp Bulb Ref. 13 as shown | E–2999–1 |
| 125760 | Fa | **Stationary Style "HC-2" Electric Lamp Unit** for Ref. F (without Mounting Fittings and Lamp Bulb) | C–8965–18 |
| 78713 | G | **Mask** for Stationary Lamp | C–8884–6 |
| 97094 | H | **Ladder, 7′ 9″ long** with Stays for Refs. A and Aa | B–10313–183 |
| 119966 | Ha | **Ladder, 11′ 4″ long** with Stays for Refs. Af and Am | B–10313–304 |
| 114447 | Hb | **Ladder, 17′ 5″ long** with Stays for Ref. An | B–10313–300 |
| 119805 | Hc | **Platform and Handrail** for 5″ Pipe for Ref. An (not shown) | B–10313–300 |
| | J | **Two Style "HC-2" Electric Light Units** with Adapter and necessary fittings, for mounting on Banner Arm of Style "DW" Automatic Flagman | E–2999–4 |
| 71278 | 2 | **Bracket** for attaching Relay Box Ref. C to 5″ Post | C–8034–13 |
| 43931 | 3 | **"U" Bolt,** $\frac{3}{4}$″ with $\frac{3}{4}$″ Hex. Nuts for attaching Bracket Ref. 2 to 5″ Pipe Post | 8782–66 |

UNION SWITCH & SIGNAL CO.

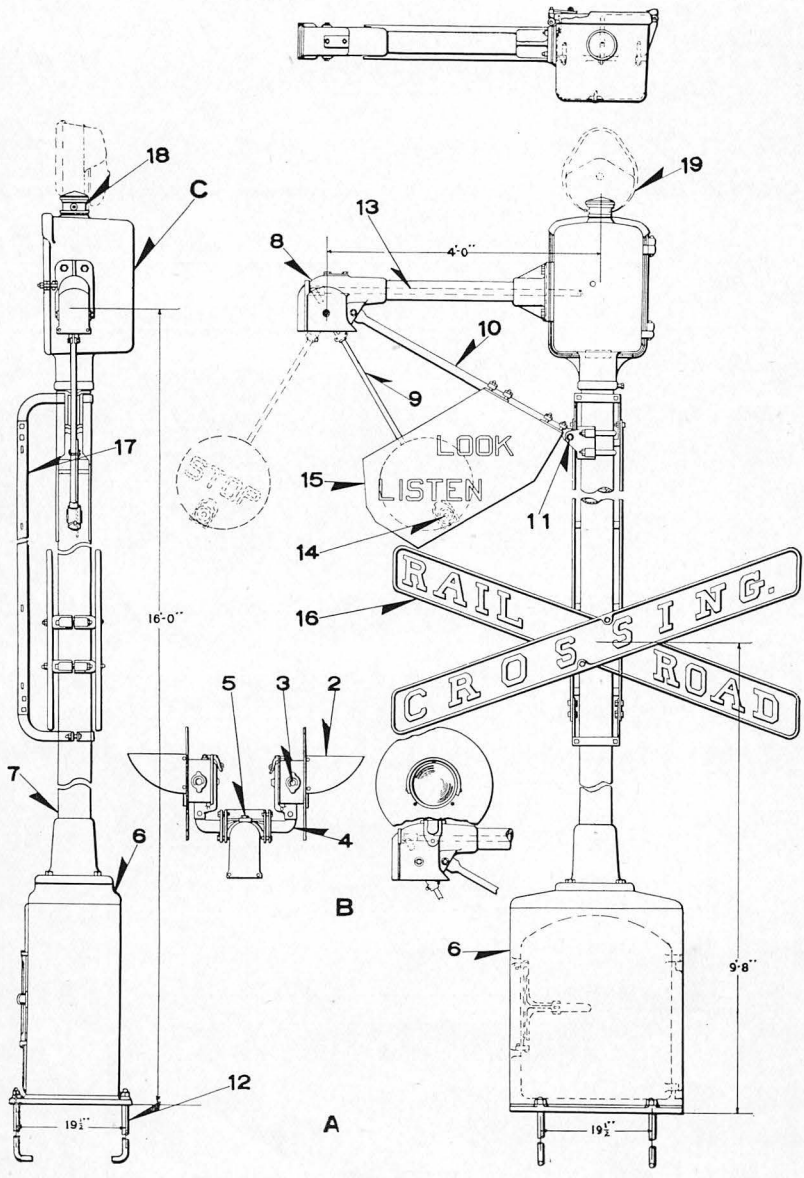
STYLE "DW" AUTOMATIC FLAGMAN (D. C.) COMPLETE
For Detail View of Base Casting See Plate K-3
(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **97005** | **4** | **Lamp Bracket, 3/8"x2"** for 7/16"x2 1/16" Lamp Socket... | B–8069–199 |
| **97349** | **4a** | **Lamp Bracket, 1/2"x2"** for 9/16"x2 1/16" Lamp Socket... | B–8069–234 |
| **75131** | **5** | **R. H. Arm** for Ref. G..... | C–8884–6 |
| **75132** | **5a** | **L. H. Arm** for Ref. G..... | C–8884–6 |
| | **6** | **Rivet, 1/4"x1/2"** Rd. Hd. for fastening Ref. G to Refs. 5 and 5a. | |
| | **7** | **Bolt, 3/8"x2"** Hex. Hd. with Hex. Nut for fastening Refs. 5 and 5a to Banner Arm. | |
| **75133** | **8** | **Mast** only for Ref. G..... | C–8884–6 |
| **127968** | **9** | **Adapter** for Ref. F..... | C–8884–24 |
| | **10** | **Tap Bolt, 1/2"-13x1 1/4"** Hex. Hd. S. for attaching Ref. 9 to Banner Arm. | |
| **10276** | **11** | **Foundation Bolt, 1"x3' 0"** with Std. 1" Plate Washer and 1" Hex. Nut..... | 7913–54 |
| **95268** | **12** | **Electric Lamp (120 Volts, 36 Watts)** Medium Screw Base for Ref. E..... | B–12409–6 |
| **126729** | **13** | **Electric Lamp (10 Volt, 18 Watt)** for Ref. F..... | B–12409–16 |
| **70957** | **14** | **Pinnacle**..... | B–8121–14 |
| **124372** | **15** | **Style "HC-2" Light Unit** (without Bulb) for Ref. J (For details refer to Ref. A, Plate K-107)..... | C–8965–18 |
| **126729** | **16** | **Electric Lamp** (10 Volt, 18 Watt) for Ref. 15..... | B–12409–16 |
| **129116** | **17** | **Adapter** for Ref. J..... | C–8884–27 |
| | **18** | **Tap Bolt, 1/2"-13x1 1/4"** Hex. Hd. for attaching Ref. 17 to Banner Arm. | |

PLATE K-2

UNION SWITCH & SIGNAL CO.




STYLE "DW" AUTOMATIC FLAGMAN WITH INSTRUMENT CASE AND CROSSING SIGN

UNION SWITCH & SIGNAL CO.

# STYLE "DW" AUTOMATIC FLAGMAN (D. C.) COMPLETE WITH CROSSING SIGN AND INSTRUMENT CASE

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | **A** | **Style "DW" Automatic Flagman** with 5″ Pipe Post, Ladder, Instrument Case and Crossing Sign (for D.C. 10-Volt operation) (without Crossing Bell and Style "HC-2" Electric Light Units) 16′ 0″ from Bottom of Instrument Case to Center of Banner Arm | E–2999–4 |
| **128973** | **Aa** | **Style "DW" Automatic Flagman** with 5″ Pipe Post, Ladder, Instrument Case and Two "HC-2" Electric Lamp Units (Ref. B) for D.C. 10-Volt Operation (without Crossing Sign and Crossing Bell) 16′ 0″ from Bottom of Instrument case to Center of Banner Arm | E–2999–4 |
| | **B** | **Two Style "HC-2" Electric Light Units** with Adapter and necessary fittings for mounting on Banner Arm of Style "DW" Automatic Flagman for Ref. Aa | E–2999–4 |
| **73881** | **C** | **Mechanism Case** with D.C. Mechanism having 1000 Ohm Slot and 5 Ohm Operating Magnets Ref. A, Plate K-9 and Pinnacle Ref. 18 for 10 Volt operation | C–8284–1 |
| **128974** | **Ca** | **Mechanism Case** with D.C. Mechanism having 1000 Ohm Slot and 5 Ohm operating Magnets Ref. Ab, Plate K-9, Flasher Circuit Controller Ref. A, Plate K-51 and Pinnacle Ref. 18 for 10-Volt operation | C–8284–1 |
| **124372** | **2** | **Style "HC-2" Light Unit** (without Bulb) for Ref. B (For details refer to Ref. A, Plate K-107) | C–8965–18 |
| **126729** | **3** | **Electric Lamp (10 Volt, 18 Watt)** for Ref. 2 | B–12409–16 |
| **129116** | **4** | **Adapter** for Ref. B | C–8884–27 |
| | **5** | **Tap Bolt, ½″-13x1¼″** Hex. Hd. for Attaching Ref. 4 to Banner Arm. | |

UNION SWITCH & SIGNAL CO.

## STYLE "DW" AUTOMATIC FLAGMAN (D. C.) COMPLETE WITH CROSSING SIGN AND INSTRUMENT CASE (Continued)

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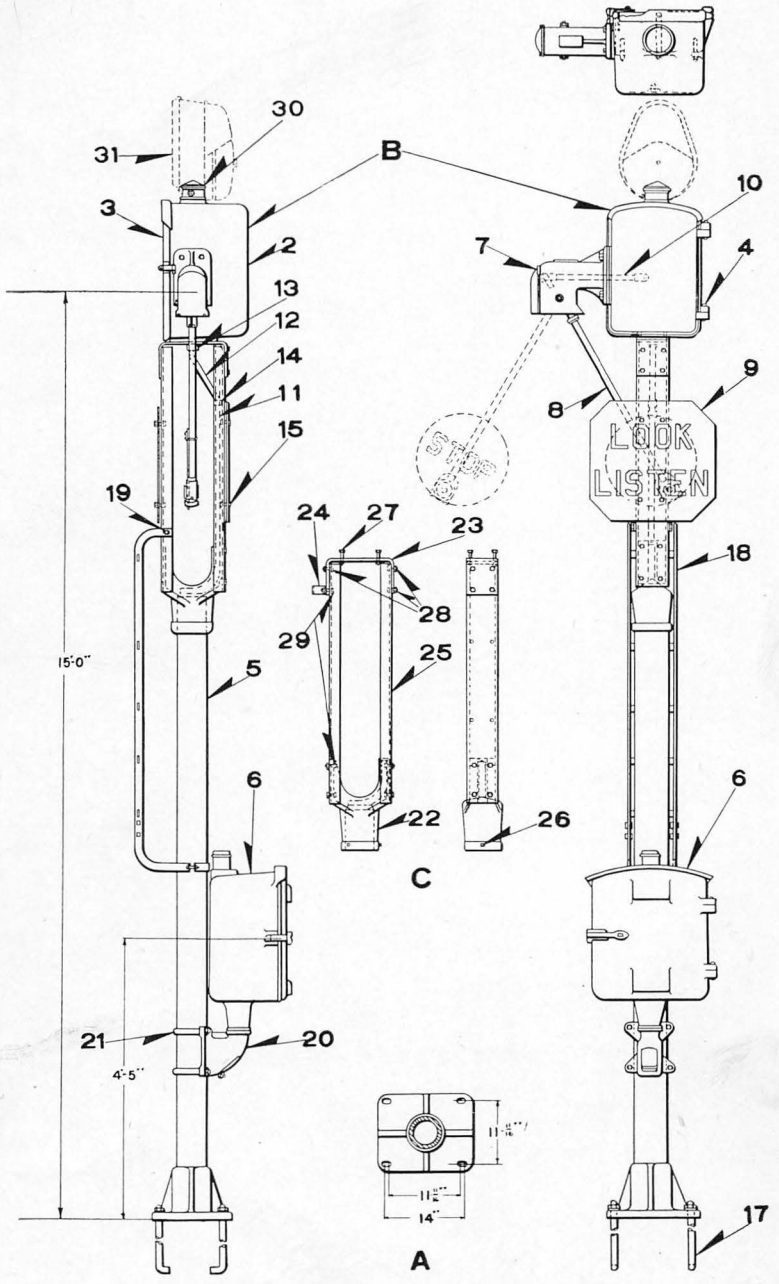
**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **68687** | **6** | **Instrument Case** (for details see Ref. A, Plate L-1135) | C–7589–6 |
| **116172** | **7** | **5″ Pipe Post, 11′ 9½″ long** with Socket for Refs. A and Aa | B–9893–99 |
| **75599** | **8** | **Banner Arm** | C–8884–4 |
| **123199** | **9** | **Banner** (Lettered Stop) as shown | C–8884–21 |
| **75603** | **10** | **Shield Brace** | C–8884–3 |
| | **11** | **Bolt, ⅝″x1¾″** Hex. Hd. with Hex. Nut and Plain Lock Washer (7/32″x⅛″) for attaching Ref. 10 to Pole. | |
| **10276** | **12** | **Foundation Bolt, 1″x3′ 0″** with 1″ Hex. Nut and 1″ Std. Plate Washer | 7913–54 |
| **75883** | **13** | **Operating Rod** | C–8884–9 |
| **120802** | **14** | **Electric Lamp (12 Volts .25 Ampere)** for Banner | B–12409–12 |
| **80856** | **15** | **Banner Mask** (Lettered Look-Listen) as shown | C–8884–10 |
| | **16** | **Crossing Sign** with Clamps, Bolts and Nuts for fastening to 5″ Pipe Post (for details see Plate K-97) | C–5844–4 |
| **97094** | **17** | **Ladder 7′ 9″ long** with Stays for Refs. A and Aa | B–10313–183 |
| **70957** | **18** | **Pinnacle** | B–8121–14 |
| | **19** | **Crossing Bell** (See Plates K-80 D.C. and K-91 A.C.) | |

PLATE K-3

UNION SWITCH & SIGNAL CO.




STYLE "DW" AUTOMATIC FLAGMAN (D. C.) COMPLETE (FOR CENTER STREET LOCATION)

UNION SWITCH & SIGNAL CO.

## STYLE "DW" AUTOMATIC FLAGMAN (D. C.) COMPLETE (FOR CENTER STREET LOCATION)

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **127871** | **A** | **Style "DW" Automatic Flagman** (DC) for Center Street Location with 5″ Pipe Post, Relay Box, Ladder and Banner Ref. 8 (without Crossing Bell) 15′ 0″ from Base to center of Banner Arm for Operation on 10 Volts | E–2999–3 |
| **127814** | **Aa** | **Style "DW" Automatic Flagman** (DC) for Center Street Location with Banner Ref. 8a (without Pipe Post, Relay Box, Ladder or Crossing Bell) arranged for mounting on existing 5″ Pipe Post for operation on 10 Volts with clear Indication Lamp on Banner Arm (without Banner Arm Lamp) | E–2999–3 |
| **127869** | **B** | **Mechanism Case** with D.C. Mechanism having 1000 Ohm Slot and 5 Ohm operating Magnets Ref. A, Plate K-9 and Pinnacle Ref. 30 for 10 Volt Operation for Ref. A | C–8284–2 |
| **127813** | **Ba** | **Mechanism Case** with D.C. Mechanism having 1000 Ohm Slot and 5 Ohm operating Magnets and Latch Circuit Controller to light one Lamp in Clear Indication and one Lamp in Danger Indication Ref. Ad, Plate K-9 and Pinnacle Ref. 30 for 10 Volt operation for Ref. Aa | C–8284–2 |
| **127895** | **C** | **Support** with 5″ Pipe Socket for Ref. Aa arranged for attaching Mechanism to an existing 5″ Pipe Post | C–8884–14 |
| **115399** | **2** | **Mechanism Case** (without Mechanism) for Refs. B and Ba | C–8284–2 |
| **115351** | **2a** | **Mechanism Case,** Main Casting only for Ref. 2 | C–8884–16 |
| **73906** | **3** | **Cover,** Includes Packing | C–8884–1 |
| | **3a** | **Flax Packing 3/8″x3/8″x6′ 6½″ long** for Ref. 3. | |
| | **4** | **Rivet ½″x3¼″** Rd. Hd. I. for attaching Ref. 3 to Ref. 2. | |

UNION SWITCH & SIGNAL CO.

## STYLE "DW" AUTOMATIC FLAGMAN (D. C.) COMPLETE (FOR CENTER STREET LOCATION) (Continued)

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **127870** | **5** | **5″ Pipe Post** with Socket, Case Support and Channels 14′ 1½″ from bottom of Socket to Top of Case Support (Drilled for Relay Box) | E–2999–3 |
| **128139** | **5a** | **5″ Pipe Post** with Socket and Channel Support (Drilled for Relay Box) 10′ 9½″ from bottom of Socket to Top of Channel Support for Ref. 5 | B–9893–110 |
| **127867** | **5b** | **5″ Pipe Post** with Socket and Channel Support (Undrilled) 10′ 9½″ from bottom of Socket to Top of Channel Support for Ref. 5a | B–12440–10 |
| **119555** | **6** | **Relay Box** | C–7976–20 |
| **115403** | **7** | **Banner Arm** for Ref. A | C–8884–19 |
| **127811** | **7a** | **Banner Arm** with Holes for Auxiliary Light for Ref. Aa | C–8884–19 |
| **123199** | **8** | **Banner,** Lettered "Stop" as shown for Ref. A | C–8884–21 |
| **123201** | **8a** | **Banner,** Lettered "Stop" with ¾″ Black Rim around outer edge on both sides complete for Ref. Aa | C–8884–21 |
| **115425** | **9** | **Mask** for Refs. A and Aa | C–8884–10 |
| **115385** | **10** | **Operating Rod** for Refs. A and Aa | C–8884–9 |
| **115419** | **11** | **Piece ¾″ Galv. I. Pipe 2′ 0″ Long** for Refs. A and Aa | B–10919–2 |
| | **12** | **Piece ¾″ Galv. D. S. Flexible S. Conduit ¾″ I. D. x1 $\frac{3}{16}$″ O. D. 14″ Long.** | |
| | **13** | **¾″ Conduit Panel Box Connector No. 39.** | |

UNION SWITCH & SIGNAL CO.

## STYLE "DW" AUTOMATIC FLAGMAN (D. C.) COMPLETE (FOR CENTER STREET LOCATION) (Continued)

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | **14** | **¾″ Galv. Pipe Coupling.** | |
| | **15** | **Bolt, ⅜″x1¼″** Sq. Hd. with ⅜″ Plain Lock Washer (5/32″x3/32″) Std. Plate Washer and Hex. Nut. | |
| **120802** | **16** | **Electric Lamp 12-Volt, .25 Ampere** for 10 Volt Storage Battery Operation for Banner (Not shown) | B–12409–12 |
| **120803** | **16a** | **Electric Lamp 13.5-Volts, .25-Ampere** for 10-Volt (16-Cell) Primary Battery Operation for Banner.. | B–12409–12 |
| **10276** | **17** | **Foundation Bolt, 1″x3′ 0″** with 1″ Std. Plate Washer and 1″ Hex. Nut for Ref. A..... | 7913–54 |
| **127866** | **18** | **Ladder, 5′ 3″ long** with Stays for Ref. A..... | B–10313–335 |
| | **19** | **Bolt, ½″x1½″** Sq. Hd. with Hex. Nut and Washer Ref. 19a for attaching Top of Ladder to Channel | |
| **41885** | **19a** | **Washer** only for Ref. 19..... | 8065–166 |
| **71278** | **20** | **Bracket** for attaching Relay Box to Pole..... | C–8034–13 |
| **43931** | **21** | **"U" Bolt ¾″**, with ¾″ Hex. Nuts for 5″ Pipe for Fastening Bracket Ref. 20 to Pole..... | 8782–66 |
| **127812** | **22** | **Channel Support** and Socket for Ref. C..... | C–8884–24 |
| **115401** | **23** | **Support** for Ref. C..... | C–8884–19 |
| **115407** | **24** | **Hand Grip** for Ref. C..... | C–8884–19 |
| **115402** | **25** | **Channel** for Ref. C..... | C–8884–19 |
| | **26** | **Set Screw, ⅝″x1″** Cupped Point Iron for Ref. C. | |
| | **27** | **Bolt, ½″x2½″** Sq. Hd. with Hex. Nut and ½″ Plain Lock Washer (3/16″x3/32″) for Ref. C. | |

UNION SWITCH & SIGNAL CO.

## STYLE "DW" AUTOMATIC FLAGMAN (D. C.) COMPLETE (FOR CENTER STREET LOCATION) (Continued)

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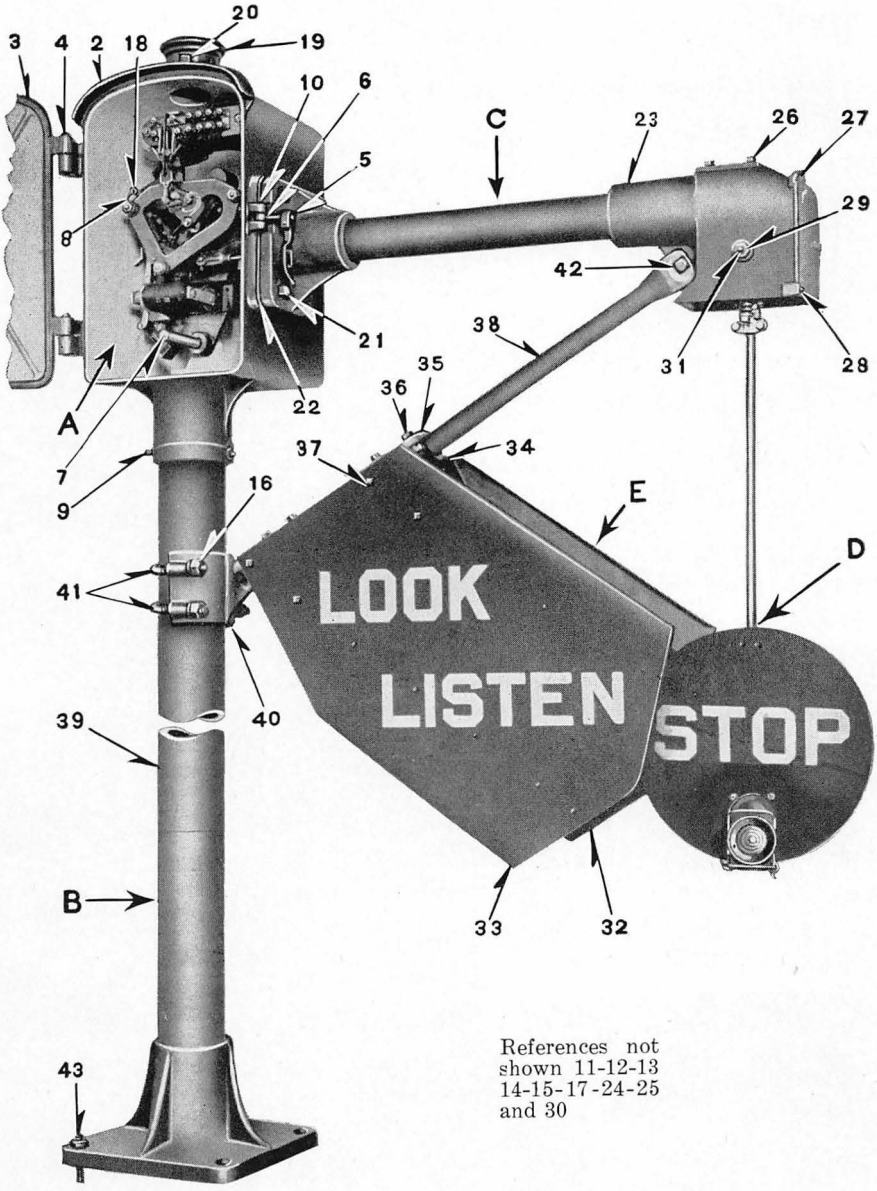
**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | 28 | **Bolt, 5/8"x1 3/4"** Sq. Hd. with Hex. Nut and 5/8" Plain Lock Washer (7/32"x1/8") for Ref. C. | |
| | 29 | **Bolt, 5/8"x2"** Sq. Hd. with Hex. Nut and 5/8" Plain Lock Washer (7/32"x1/8") for Ref. C. | |
| **70957** | 30 | **Pinnacle** | B–8121–14 |
| | 31 | **Crossing Bell** (See Plates K-80 D.C. and K-91 A.C.). | |

UNION SWITCH & SIGNAL CO.




References not shown 11-12-13 14-15-17-24-25 and 30

MAIN ASSEMBLIES AND DETAILS STYLE "DW" AUTOMATIC FLAGMAN (D-C.)

UNION SWITCH & SIGNAL CO.

## MAIN ASSEMBLIES AND DETAILS STYLE "DW" AUTOMATIC FLAGMAN (D-C.)

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **73881** | **A** | **Mechanism Case, Ref. 2 with D.C. Mechanism** having 1000-Ohm Slot and 5-Ohm operating magnets Ref. A, Plate K-9 and Pinnacle Ref. 19 for 10-Volt operation | C–8284–1 |
| **128974** | **Aa** | **Mechanism Case, Ref. 2 with D.C. Mechanism** having 1000-Ohm Slot and 5-Ohm operating magnets, Ref. Ab, Plate K-9, Pinnacle Ref. 19 and Flasher Circuit Controller Ref. A, Plate K-51 for 10-Volt operation | C–8284–1 |
| **115462** | **Ab** | **Mechanism Case, Ref. 2a with D.C. Mechanism** having 1000-Ohm Slot and 5-Ohm operating magnets Ref. A, Plate K-9, for 10-Volt operation (Case arranged for Crossing Bell with 4″ Pipe Socket) | C–8284–1 |
| **113622** | **Ac** | **Mechanism Case, Ref. 2a with D.C. Mechanism** having 670-Ohm Slot and 5-Ohm operating magnets Ref. Ac, Plate K-9 for 8-Volt operation (Case arranged for Crossing Bell with 4″ Pipe Socket) | C–8284–1 |
| **114253** | **Ad** | **Mechanism Case, Ref. 2a with D.C. Mechanism** having 670-Ohm Slot and 5-Ohm operating magnets Ref. Ac, Plate K-9 for 8-Volt operation (Case arranged for Crossing Bell with 3½″ Pipe Socket) | C–8284–1 |
| **116138** | **Ae** | **Mechanism Case, Ref. 2 with D.C. Mechanism** having 670-Ohm Slot and 5-Ohm operating magnets Ref. Ac, Plate K-9 and Pinnacle Ref. 19 for 8-Volt operation | C–8284–1 |
| **75598** | **B** | **5″ Pipe Post, 14′ 0¾″ long,** used with Relay Box Ref. C, Plate K-1 for Signal 15′ 0″ between center of Banner Arm and Base (includes Ref. 16, 39, 40 and 41) | B–9893–42 |
| **78910** | **Ba** | **5″ Pipe Post, 17′ 5¾″ long,** used with Relay Box Ref. C, Plate K-1 for Signal 18′ 5″ between center of Banner Arm and Base (includes Refs. 16, 39a, 40 and 41) | B–9893–42 |

UNION SWITCH & SIGNAL CO.

## MAIN ASSEMBLIES AND DETAILS STYLE "DW" AUTOMATIC FLAGMAN (D-C.) (Continued)

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **78911** | **Bb** | **5″ Pipe Post, 16′ 7¾″ long,** used with Relay Box Ref. C, Plate K-1 for Signal 17′ 7″ between center of Banner Arm and Base (includes Refs. 16, 39b, 40 and 41) | B–9893–42 |
| **78912** | **Bc** | **5″ Pipe Post, 15′ 10¾″ long,** used with Relay Box Ref. C, Plate K-1 for Signal 16′-10″ between center of Banner Arm and Base (includes Refs. 16, 39c, 40 and 41) | B–9893–42 |
| **116740** | **Bd** | **5″ Pipe Post, 18′ 1½″ long,** used with Relay Box Ref. C, Plate K-1 for Signal 19′ 0″ between center of Banner Arm and Base (includes Refs. 16, 39d, 40 and 41) | B–9893–42 |
| **94290** | **Be** | **5″ Pipe Post, 14′ 0¾″ long,** except no hole for Relay Box wiring for Signal 15′ 0″ between center of Banner Arm and Base (includes Refs. 16, 39, 40 and 41) | B–9893–42 |
| **114433** | **Bf** | **5″ Pipe Post, 19′ 0¾″ long,** except no hole is provided for Relay Box wiring for Signal 20′ 0″ between center of Banner Arm and Base (includes Refs. 16, 39e, 40 and 41) | B–9893–42 |
| **75599** | **C** | **Banner Arm,** (includes Refs. 23 to 31) | C–8884–4 |
| **123199** | **D** | **Banner** (Detailed on Plate K-17) lettered "STOP". | C–8884–21 |
| **123200** | **Da** | **Banner,** (Detailed on Plate K-17) lettered "STOP" and "ARRETEZ" | C–8884–21 |
| **123201** | **Db** | **Banner,** (Detailed on Plate K-17) lettered "STOP" with ¾″ Black Rim around outer edge on both sides | C–8884–21 |
| **128940** | **Dc** | **Banner,** (Detailed on Plate K-17) with 1″ Black Rim around outer edge with Black Cross in Center, balance of background white | C–8884–21 |

UNION SWITCH & SIGNAL CO.

## MAIN ASSEMBLIES AND DETAILS STYLE "DW" AUTOMATIC FLAGMAN (D-C.) (Continued)

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **80856** | **E** | **Banner Mask,** (includes Refs. 32 to 37b) lettered "LOOK-LISTEN" as shown | C–8884–10 |
| **112974** | **Ea** | **Banner Mask,** (includes Refs. 32 to 37b) lettered "LOOK-LISTEN-REGARDEZ-ECOUTEZ" | C–8884–15 |
| **73914** | **2** | **Mechanism Case,** (without Mechanism) as shown (includes Refs. 2c to 18) Arranged to suit Crossing Bell with 3″ Pipe Socket | C–8284–1 |
| **113621** | **2a** | **Mechanism Case,** (without Mechanism) arranged to suit Crossing Bell with 4″ Pipe Socket (includes Refs. 2c to 18) | C–8284–1 |
| **114825** | **2b** | **Mechanism Case,** (without Mechanism) arranged to suit Crossing Bell with 3½″ Pipe Socket | C–8284–1 |
| **73870** | **2c** | **Mechanism Case,** main casting only, for Ref. 2 | C–8884–1 |
| **113632** | **2d** | **Mechanism Case,** main casting only, for Ref. 2a | C–8884–1 |
| **123731** | **2e** | **Mechanism Case,** main casting only, for Ref. 2b | C–8884–1 |
| **73906** | **3** | **Cover,** (includes packing) | C–8884–1 |
| | **3a** | **Flax Packing, ⅜″x⅜″x6′-6½″ long** for Ref. 3. | |
| | **4** | **Rivet, ½″x3¼″** Rd. Hd. I. | |
| **68392** | **5** | **Hasp** | 9925–1 |
| **10389** | **6** | **Eye Bolt, ⅝″x2⅞″** | 8034–55 |
| **73907** | **7** | **Stud, 1″x8¼″** | 8090–128 |
| | **8** | **Stud, 1″x3¾″** | 8090–137 |
| | **9** | **Set Screw, ½″x1″** Cupped Point. | |

UNION SWITCH & SIGNAL CO.

## MAIN ASSEMBLIES AND DETAILS STYLE "DW" AUTOMATIC FLAGMAN (D-C.) (Continued)

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **18597** | **10** | **Pin,** $\frac{1}{2}$"x2$\frac{3}{16}$" | B–10213–1 |
| | **11** | **Stud,** $\frac{5}{8}$"x2" (not shown) used in rear of case to support operating magnets | 8071–163 |
| **66097** | **12** | **Spring Wire Clip** (not shown) for supporting wires leading to Banner Arm | 8735–492 |
| **66095** | **13** | **Insulation** (not shown) for Ref. 12 | 8750–1958 |
| **66096** | **14** | **Insulation** (not shown) for Ref. 12 | 8750–1958 |
| | **15** | **Tap Bolt** $\frac{1}{4}$"x$\frac{1}{2}$" Hex. Hd. for Ref. 12 (not shown). | |
| | **16** | **Nut,** $\frac{3}{4}$" Hex. for fastening studs Refs. 7 and 8 to Case Ref. 2, also for "U" Bolt Ref. 41. | |
| | **17** | **Lock Washer** (not shown) for Ref. 16 when used on Refs. 7 and 8. | |
| | **18** | **Cotter,** $\frac{1}{4}$"x1$\frac{1}{2}$" for holding mechanism on studs Refs. 7 and 8. | |
| **70957** | **19** | **Pinnacle,** with set screw Ref. 20 | B–8121–14 |
| | **20** | **Set Screw,** $\frac{5}{8}$"x$\frac{3}{4}$" Sq. Hd. Cup. Point for Ref. 19. | |
| | **21** | **Tap Bolt,** $\frac{3}{4}$"x2" Hex. Hd. for fastening Ref. C to Ref. 2. | |
| **98433** | **22** | **Gasket** between Refs. C and 2 | 8078–1273 |
| **111704** | **23** | **Socket,** Pipe and Banner Bearing (pressed together) | C–8884–2 |
| **70317** | **24** | **A.R.A. Terminal Block,** (not shown) inside of bearing | 9968–299 |
| | **25** | **Machine Screw No. 14-24x$\frac{7}{8}$"** Fil. Hd. Br. (Not shown) for fastening Ref. 24 to Ref. 23. | |

UNION SWITCH & SIGNAL CO.

## MAIN ASSEMBLIES AND DETAILS STYLE "DW" AUTOMATIC FLAGMAN (D-C.) (Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | **26** | **Tap Bolt,** 1/2″x3/4″ Hex. Hd. | |
| **75628** | **27** | **Door** | C–8884–7 |
| | **28** | **Machine Screw No. 14-24x5/8″** Fil. Hd. S. (Cad. Pl.) | |
| **78326** | **29** | **Pivot Screw** | 8378–330 |
| **78393** | **30** | **Pin, 3/8″x5 9/16″** (not shown) supporting Banner "D" in Pivots Ref. 2a | 8079–94 |
| | **31** | **Pipe Plug,** 1/4″ Galv. | |
| **110309** | **32** | **Mask, R. H.** with reinforcing straps and rivets for Ref. E | C–8884–10 |
| **110310** | **33** | **Mask, L. H.** with reinforcing straps and rivets for Ref. E | C–8884–10 |
| **110311** | **34** | **Clamp** for fastening Refs. 32 and 33 to mask brace Ref. 38 (includes Refs. 34a to 36b) | B–10246–7 |
| **80875** | **34a** | **Clamp** only | B–10246–7 |
| **78358** | **35** | **Cap** for Ref. 34 | B–10246–5 |
| | **36** | **Bolt,** 1/2″x2″ Sq. Hd. for Ref. 34. | |
| | **36a** | **Nut,** 1/2″ Hex. | |
| | **36b** | **Lock Washer,** 1/2″. | |
| | **37** | **Bolt, 3/8″x1 1/2″** Sq. Hd. for fastening Refs. 32 and 33 to clamp Ref. 34. | |
| | **37a** | **Lock Washer, 3/8″.** | |
| | **37b** | **Nut, 3/8″** Hex. | |

UNION SWITCH & SIGNAL CO.

## MAIN ASSEMBLIES AND DETAILS STYLE "DW" AUTOMATIC FLAGMAN (D-C.) (Continued)

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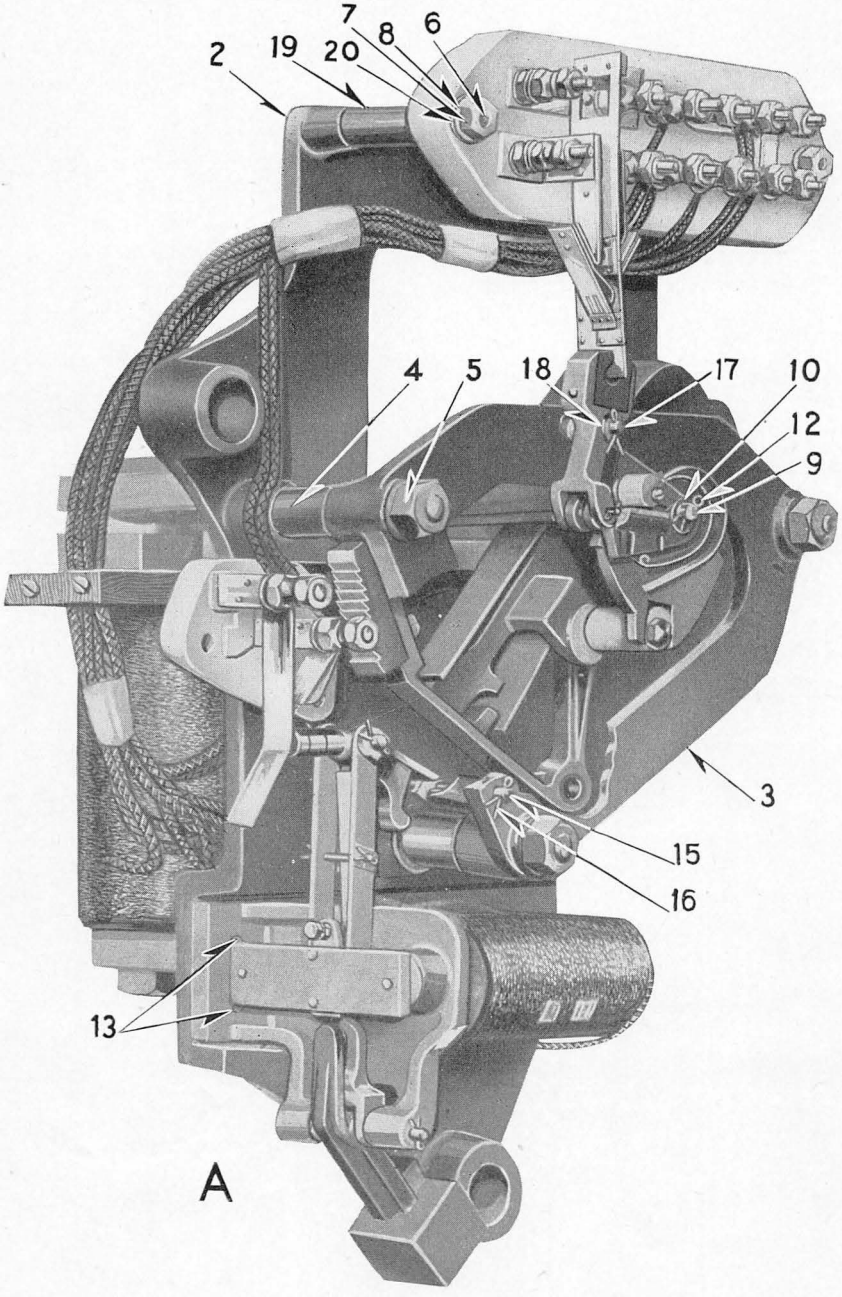
**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **75603** | **38** | **Brace, 3′ 9¼″** for supporting Ref. E | C–8884–3 |
| **94305** | **39** | **Pipe Post, 14′ 0¾″ Long,** with socket (undrilled) for Refs. B and Ba | B–12440–6 |
| **94306** | **39a** | **Pipe Post, 17′ 5¾″ Long,** with socket (undrilled) for Ref. Ba | B–12440–6 |
| **94307** | **39b** | **Pipe Post, 16′ 7¾″ Long,** with socket (undrilled) for Ref. Bb | B–12440–6 |
| **94308** | **39c** | **Pipe Post, 15′ 10¾″ Long,** with socket (undrilled) for Ref. Be | B–12440–6 |
| **112928** | **39d** | **Pipe Post, 18′ 1½″ Long,** with socket (undrilled) for Ref. Bd | B–12440–12 |
| **94304** | **39e** | **Pipe Post, 19′ 0¾″ Long,** with socket (undrilled) for Ref. Bf | B–12440–6 |
| **75625** | **40** | **Clamp** for Ref. 39 for supporting Ref. 38 | B–8707–12 |
| **43128** | **41** | **"U" Bolt, ¾″** with two ¾″ Hex. Nuts for attaching Ref. 40 to 5″ Pipe | 8782–63 |
| | **42** | **Bolt, ⅝″x1¾″** Hex. Hd. with ⅝″ Hex. Nut and Std. ⅝″ Lock Washer for fastening brace to pole and Banner Arm. | |
| **10276** | **43** | **Foundation Bolt, 1″x3′ 0″** with Hex. Nut and Std. 1″ Plate Washer | 7913–54 |

PLATE K-9

UNION SWITCH & SIGNAL CO.




MECHANISM FRAME DETAILS, STYLE "DW" AUTOMATIC FLAGMAN (D-C.)

UNION SWITCH & SIGNAL CO.

# MECHANISM AND FRAME DETAILS, STYLE "DW" AUTOMATIC FLAGMAN (D-C.)

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **74000** | **A** | **Mechanism,** having 1000-Ohm Slot and 5-Ohm operating magnets for 10-Volt operation (includes details shown on Plates K-9, K-11, K-13 and K-15) | D–1971–2 |
| **99654** | **Aa** | **Mechanism,** having 1000-Ohm Slot and 5-Ohm operating Magnets with Flasher Circuit Controller Ref. A, Plate K-51, wired for operating a series of Lights for 10-Volt operation (includes details shown on Plates K-9, K-11, K-13, K-15 and K-51). | D–1971–2 |
| **129605** | **Ab** | **Mechanism,** having 1000-Ohm Slot and 5-Ohm operating Magnets, equipped with Flasher Circuit Controller, Ref. A, Plate K-51 wired for operating a single Light for 10-Volt operation (includes details shown on Plates K-9, K-11, K-13, K-15 and K-51) | D–1971–2 |
| **113620** | **Ac** | **Mechanism,** having 670-Ohm Slot and 5-Ohm operating Magnets, for 8-Volt operation (includes details shown on Plates K-9, K-11, K-13 and K-15) | D–1971–2 |
| **127809** | **Ad** | **Mechanism,** having 1000-Ohm Slot and 5-Ohm operating Magnets and Latch Circuit Controller to Light one Lamp for clear Indication and one Lamp for Danger Indication for 10-Volt operation (includes details shown on Plates K-9, K-11, K-13 and K-15) | D–1971–2 |
| **77668** | **2** | **Frame** | C–8885–6 |
| **77670** | **3** | **Front Bearing Plate** | C–8885–6 |
| **79001** | **4** | **Stud,** ¾″x4⅝″ for fastening Ref. 3 to Ref. 2 | 8261–122 |
| | **5** | **Nut,** ½″ Hex. (Cad. Pl.) | |
| **75215** | **6** | **Stud,** $\frac{7}{16}$″x4⅛″ for fastening terminal board to Ref. 2 | 8114–525 |

UNION SWITCH & SIGNAL CO.

## MECHANISM AND FRAME DETAILS, STYLE "DW" AUTOMATIC FLAGMAN (D-C.) (Continued)

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | 7 | **Nut,** $\frac{5}{16}$″ Hex. (Cad. Pl.) for Ref. 6. | |
| **74918** | 8 | **Washer** for Ref. 6 | 7826–83 |
| **74052** | 9 | **Main Shaft** | C–8885–4 |
| **85547** | 10 | **Washer** for both ends of Shaft Ref. 9 | 7828–287 |
| **73257** | 11 | **Journal** (not shown) on shaft Ref. 9 for operating arm, Ref. 15, Plate K-15 | 8093–93 |
| | 12 | **Cotter,** $\frac{1}{8}$″x$\frac{3}{4}$″ (Cad. Pl.) in end of shaft Ref. 9, also for holding Ref. 11 in place. | |
| | 13 | **Cap Screw,** $\frac{5}{16}$″x$\frac{7}{8}$″ Hex. Hd. for attaching slot magnet bracket to Ref. 2. | |
| **34626** | 14 | **Lock Washer** (not shown) for Ref. 13 | 8486–140 |
| **74927** | 15 | **Pin,** $\frac{1}{4}$″x4$\frac{1}{8}$″ for attaching link Ref. 16 Plate K-11 to Ref. 3 | B–10203–1 |
| | 16 | **Cotter,** $\frac{1}{16}$″x$\frac{5}{8}$″ S. (Cad. Pl.) for Ref. 15, also Ref. 17. | |
| **74098** | 17 | **Stud,** $\frac{1}{4}$″x1$\frac{5}{8}$″ for attaching spring shifting arm Ref. 35, Plate K-15 to Ref. 3 | 8114–330 |
| **37764** | 18 | **Washer** for Ref. 17 | 7828–166 |
| **136194** | 19 | **Bushing** for Ref. 6 | 8072–650 |
| **136191** | 20 | **Lead Washer** for Ref. 6 | 8274–99 |

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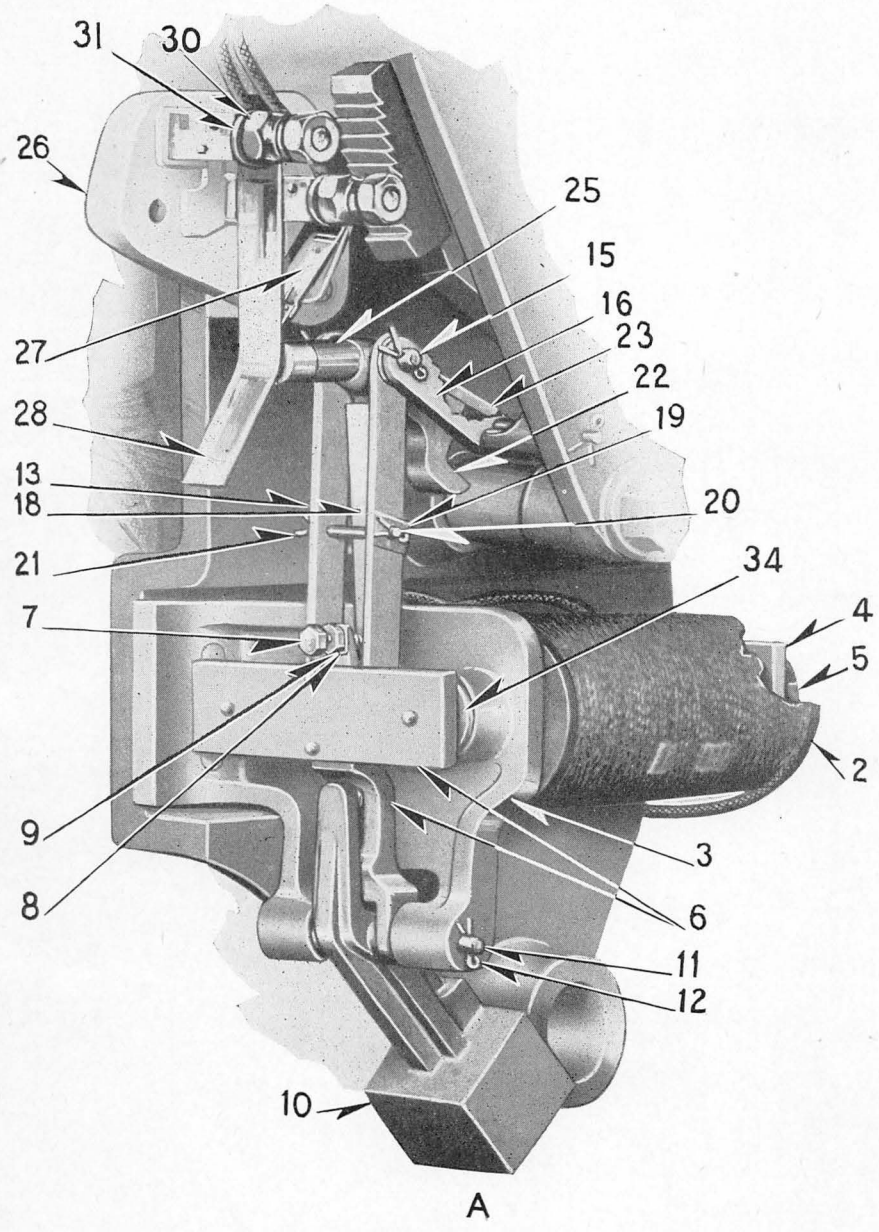


SLOT MAGNET DETAILS
STYLE "DW" AUTOMATIC FLAGMAN MECHANISM (D-C.)

UNION SWITCH & SIGNAL CO.

# SLOT MAGNET DETAILS
# STYLE "DW" AUTOMATIC FLAGMAN MECHANISM (D-C.)

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **79226** | **A** | **Slot Magnet Assembly,** 1000 ohms (includes Refs. 2-3 to 22) for 10-Volt operation | B–12438–14 |
| **113619** | **Aa** | **Slot Magnet Assembly,** 670 ohms (includes Refs. 2a to 22) for 8-Volt Operation | B–12438–14 |
| **75350** | **2** | **Magnet Coil** (500 ohms per coil) for Ref. A | 8133–311 |
| **113618** | **2a** | **Magnet Coil** (335 ohms per coil) for Ref. Aa | 8133–311 |
| **74928** | **3** | **Bracket** (includes cores Ref. 34 and pins Ref. 35) | 8075–200 |
| **75251** | **3a** | **Bracket** (casting) only | 8075–200 |
| **75299** | **4** | **Back Strap** with washers and rivets | 8162–194 |
| **51610** | **5** | **Nut** for fastening back strap to magnet core Ref. 34 | 8265–161 |
| **74924** | **6** | **Armature Bar** (includes armature riveted to supporting casting) | 8130–286 |
| **79988** | **7** | **Screw** for Ref. 6 | 8098–1147 |
| **19409** | **8** | **Lock Washer** for Ref. 7 | 8486–68 |
| **26942** | **9** | **Nut** for Refs. 7 and 8 | 8109–184 |
| **74926** | **10** | **Restoring Arm** | C–8885–5 |
| **77994** | **11** | **Pin,** 1/4″x3 1/8″ for holding Refs. 6 and 10 | B–10203–1 |
| | **12** | **Cotter,** 1/16″x5/8″ (Cad. Pl.) for Refs. 11, 14 and 15. | |
| **74922** | **13** | **Link** for connecting Ref. 16 to Ref. 6 | 11893–21 |
| **74925** | **14** | **Pin,** 1/4″x1 1/4″ (not shown) for connecting Refs. 13 and 18 to Ref. 6 | B–10203–1 |
| **74921** | **15** | **Pin,** 1/4″x1 9/16″ for connecting Refs. 16, 22 and 13 | B–10203–1 |

UNION SWITCH & SIGNAL CO.

## SLOT MAGNET DETAILS
## STYLE "DW" AUTOMATIC FLAGMAN MECHANISM (D-C.)
## (Continued)

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **74920** | **16** | **Link** for connecting Ref. 13 to pin, Ref. 15, Plate K-9 | 11893–24 |
| **60172** | **17** | **Washer** (not shown) for Ref. 14 | 7828–218 |
| **70121** | **18** | **Spring** | 8735–506 |
| **74923** | **19** | **Spring Stop** | 11893–20 |
| **34029** | **20** | **Pin** for fastening Ref. 19 to Ref. 13 | 8097–174 |
| | **21** | **Cotter,** $\frac{1}{16}$″x$\frac{1}{2}$″ for Ref. 20. | |
| **98365** | **22** | **Pawl** with insert and bushing (includes Refs. 22a to 25) | 9121–93 |
| **98364** | **22a** | **Pawl** only | 9121–93 |
| **78846** | **23** | **Pawl Insert** (For use with Magnets shipped Prev. to July 1, 1923) | 9121–88 |
| **120413** | **23a** | **Pawl Insert** (For use with Magnets shipped after 7-1-23) | 9121–88 |
| | **24** | **Machine Screw, No. 8-36x$\frac{3}{8}$″** Flat Hd. St. (not shown) for fastening insert Ref. 23 to Pawl, Ref. 22a. | |
| **61373** | **25** | **Bushing** | 8095–527 |
| **136140** | **26** | **Latch Circuit Controller,** for Automatic Flagman with one normally closed contact | 9968–730 |
| **136141** | **26a** | **Latch Circuit Controller,** for Automatic Flagman with one normal and one reverse Contact | 9968–731 |
| **136342** | **26b** | **Terminal Porcelain Board** only for Refs. 26 and 26a | 9968–729 |
| **98359** | **27** | **Contact Spring,** with terminal post for Refs. 26 and 26a | 8385–1868 |

UNION SWITCH & SIGNAL CO.

## SLOT MAGNET DETAILS
## STYLE "DW" AUTOMATIC FLAGMAN MECHANISM (D-C.)
## (Continued)

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **127805** | **27a** | **Contact Spring,** with terminal post for Ref. 26a.... | 8385–1957 |
| **98356** | **28** | **Contact Spring,** with terminal post for Ref. 26..... | 8385–1867 |
| **127806** | **28a** | **Contact Spring,** with terminal post for Ref. 26a..... | 8385–1956 |
| | **29** | **Machine Screw, No. 14-24x5/8″** Fil. Hd. Br. (not shown) for fastening Refs. 27, 27a, 28 and 28a to Ref. 26b. | |
| **29101** | **30** | **Nut** for Refs. 27, 27a, 28 and 28a..... | 8109–193 |
| **29102** | **31** | **Washer** for Refs. 27, 27a, 28 and 28a..... | 7828–139 |
| **73772** | **32** | **Washer** (not shown) for Refs. 29 and 33..... | 7826–180 |
| | **33** | **Mach. Screw No. 14-24x7/8″** Fil. Hd. S. (Cad. Pl.) (not shown) for fastening Refs. 26 and 26a to frame | |
| **75252** | **34** | **Magnet Core**..... | 8101–256 |
| **37409** | **35** | **Pin** (not shown) for securing core Ref. 34 to bracket Ref. 3..... | 8097–336 |

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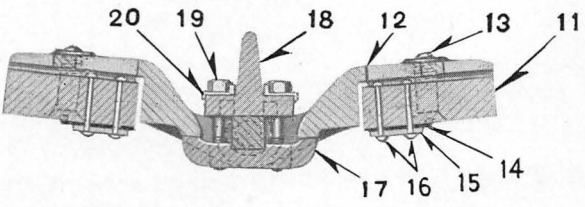


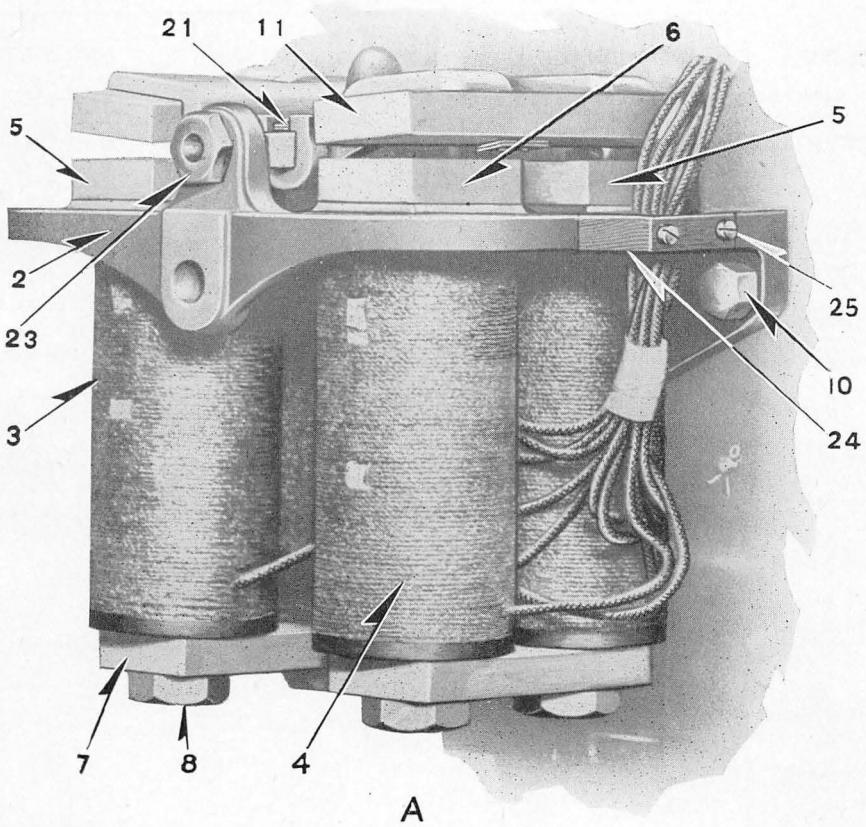


A

OPERATING MAGNET DETAILS
STYLE "DW" AUTOMATIC FLAGMAN MECHANISM (D-C.)

UNION SWITCH & SIGNAL CO.

# OPERATING MAGNET DETAILS
# STYLE "DW" AUTOMATIC FLAGMAN MECHANISM (D-C.)

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **79280** | **A** | **Operating Magnet Assembly** 5 ohms (includes Refs. 2 to 9) | B–12438–15 |
| **77745** | **2** | **Magnet Bracket** | C–8885–7 |
| **75352** | **3** | **Magnet Coil, R. H.** 2½ ohms each | B–8133–35 |
| **75355** | **4** | **Magnet Coil, L. H.** 2½ ohms each | B–8133–35 |
| **75300** | **5** | **Core** for back right or front left hand magnet | 8101–265 |
| **75301** | **6** | **Core** for back left or front right hand magnet | 8101–265 |
| **75302** | **7** | **Back Strap,** with stud | 8162–193 |
| **75303** | **8** | **Nut** | 8265–70 |
| | **9** | **Mach. Screw No. 10-30x1″** Flat Hd. St. (Cad. Pl.) (not shown) for fastening cores Refs. 5 and 6 to bracket Ref. 2. | |
| | **10** | **Cap Screw, ½″x1″** Hex. Hd. St. for fastening Ref. 2 to frame. | |
| **74145** | **11** | **Armature** (includes Refs. 11a to 16) | 8157–270 |
| **74148** | **11a** | **Armature** only | 8157–284 |
| **74146** | **12** | **Armature Bracket** | 8157–270 |
| | **13** | **Cap Screw, $\frac{5}{16}$″x1″** flat Hd. St. | |
| **74147** | **14** | **Insulation** | 8750–1969 |
| **78047** | **15** | **Washer** | 7828–334 |
| **54922** | **16** | **Rivet** | B–10301–1 |
| **74097** | **17** | **Operating Bracket** | C–8885–4 |

UNION SWITCH & SIGNAL CO.

## OPERATING MAGNET DETAILS
## STYLE "DW" AUTOMATIC FLAGMAN MECHANISM (D-C.)
## (Continued)

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **89705** | **18** | **Clamp** | C–8885–4 |
| | **19** | **Cap Screw,** 1/4″x1 1/8″ Hex. Hd. (Cad. Pl.) | |
| **79255** | **20** | **Lock Washer** for Ref. 19 | 8486–70 |
| | **21** | **Cotter,** 3/4″x1 1/4″ S. (Cad. Pl.) | |
| **45620** | **22** | **Pin** (not shown) for doweling Ref. 2 on frame, Ref. 2, Plate K-9 | 8097–398 |
| **77791** | **23** | **Trunnion Screw** | 8378–338 |
| **11943** | **24** | **Wire Carrier** | C–3636–2 |
| | **25** | **Mach. Screw No. 10-30x1 7/8″** Fil. Hd. Br. for Ref. 24. | |

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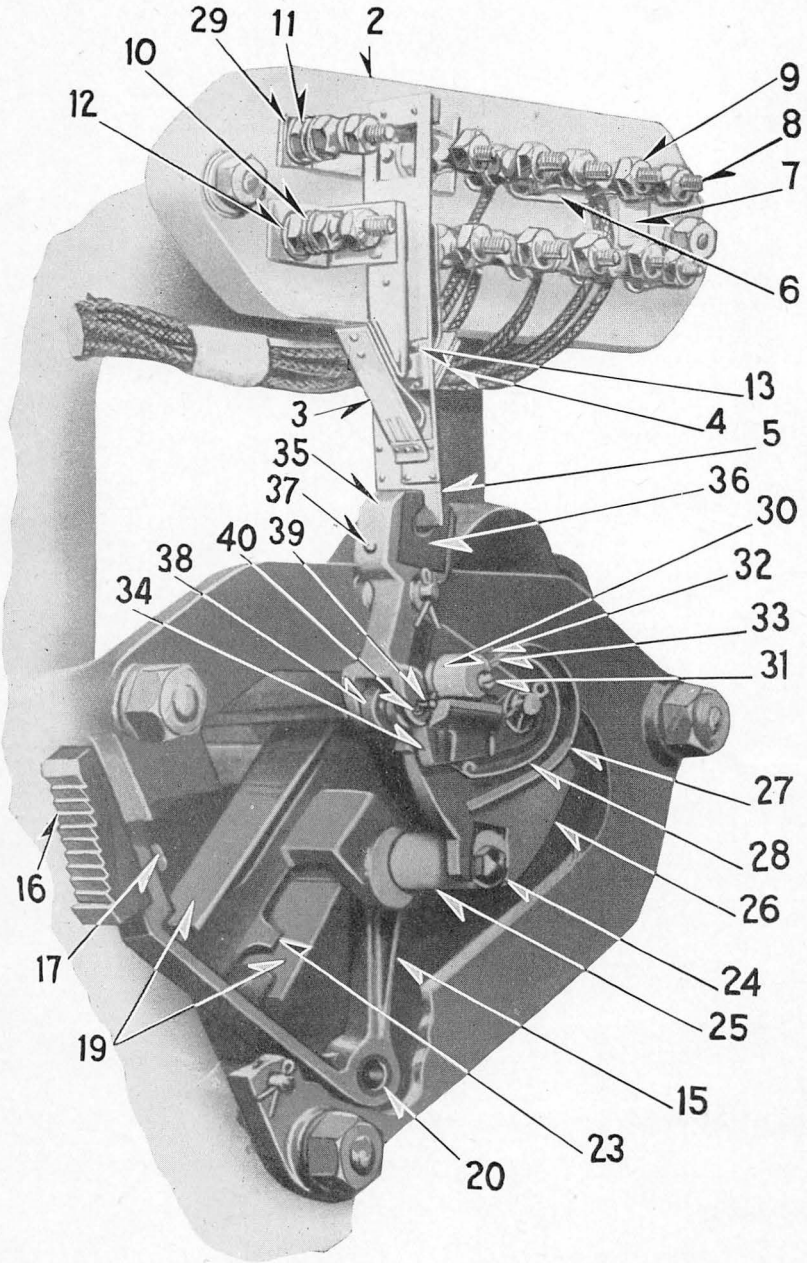


CIRCUIT CONTROLLER AND OPERATING ARM DETAILS
STYLE "DW" AUTOMATIC FLAGMAN MECHANISM (D-C.)

UNION SWITCH & SIGNAL CO.

## CIRCUIT CONTROLLER AND OPERATING ARM DETAILS STYLE "DW" AUTOMATIC FLAGMAN MECHANISM (D-C.)

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **136197** | **2** | **Porcelain Terminal and Contact Spring Board** (includes Refs. 2c to 8) | C–8885–9 |
| **136211** | **2a** | **Porcelain Terminal and Contact Spring Board** with Spacers and Washers for attaching to existing Mechanism | C–8885–9 |
| **136251** | **2b** | **Porcelain Terminal and Contact Spring Board** with Spacers and Washers for attaching to existing Mechanism (without Contact Springs and Terminal Posts) | C–8885–9 |
| **136196** | **2c** | **Porcelain Terminal and Contact Spring Board** only for Refs. 2, 2a and 2b | C–8885–9 |
| **74768** | **3** | **Contact Spring (L. H.)** | 8385–1653 |
| **74769** | **4** | **Contact Spring (R. H.)** | 8385–1653 |
| **131430** | **5** | **Contact Spring (middle)** | 8385–1655 |
| **47290** | **6** | **Terminal Connector** | 8064–305 |
| **65352** | **7** | **Terminal Connector** | 8064–461 |
| | **8** | **Terminal Post** (includes Refs. 8a to 12 and 29) | 12451 |
| **118294** | **8a** | **Terminal Post** only for Ref. 8 | 8094–1192 |
| **29101** | **9** | **Nut** for Ref. 8 | 8109–193 |
| **29102** | **10** | **Washer** for Ref. 8 | 7828–139 |
| **29103** | **11** | **Nut** for Ref. 8 | 8109–194 |
| **29104** | **12** | **Washer** (lower) for Ref. 8 | 7828–138 |
| **61537** | **13** | **Arcing Contact Tip** for Ref. 5 | 8341–358 |

UNION SWITCH & SIGNAL CO.

## CIRCUIT CONTROLLER AND OPERATING ARM DETAILS STYLE "DW" AUTOMATIC FLAGMAN MECHANISM (D-C.) (Continued)

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **74359** | **14** | **Contact Spring with Arcing Tip** (not shown) for Refs. 3 and 4 | 8385–1529 |
| **77855** | **15** | **Operating Arm** on main shaft (includes Refs. 15a to 22) | C–8885–2 |
| **111677** | **15a** | **Operating Arm** with bushing Ref. 20 | C–8885–2 |
| **74326** | **16** | **Segment** | C–8885–2 |
| | **17** | Cap Screw, 1/4″x1/2″ Hex. Hd. St. (Cad. Pl.) for fastening Ref. 16 to Ref. 15a. | |
| **67718** | **18** | **Lock Washer** for Ref. 17 (not shown) | 8486–248 |
| **74366** | **19** | **Spring** | 8735–507 |
| **74040** | **20** | **Bushing** | 8350–599 |
| | **21** | Cap Screw, 1/4″x7/8″ Hex. Hd. (Cad. Pl.) (not shown) for fastening Ref. 19 to Ref. 15. | |
| **79255** | **22** | **Lock Washer** for Ref. 21 (not shown) | 8486–70 |
| **74094** | **23** | **Driving Arm** on main shaft | C–8885–2 |
| **80455** | **24** | **Screw** for Ref. 25 | 8190–344 |
| **74103** | **25** | **Roller** | 8072–538 |
| **117875** | **26** | **Main Cam** (includes Refs. 26a, 27, 28, 30, 31, 32 and 33) | C–8885–8 |
| **117874** | **26a** | **Main Cam** only | C–8885–8 |
| **130853** | **27** | **Spring (top)** | 8735–613 |
| **117867** | **28** | **Spring (lower)** | 8735–585 |

UNION SWITCH & SIGNAL CO.

## CIRCUIT CONTROLLER AND OPERATING ARM DETAILS STYLE "DW" AUTOMATIC FLAGMAN MECHANISM (D-C.) (Continued)

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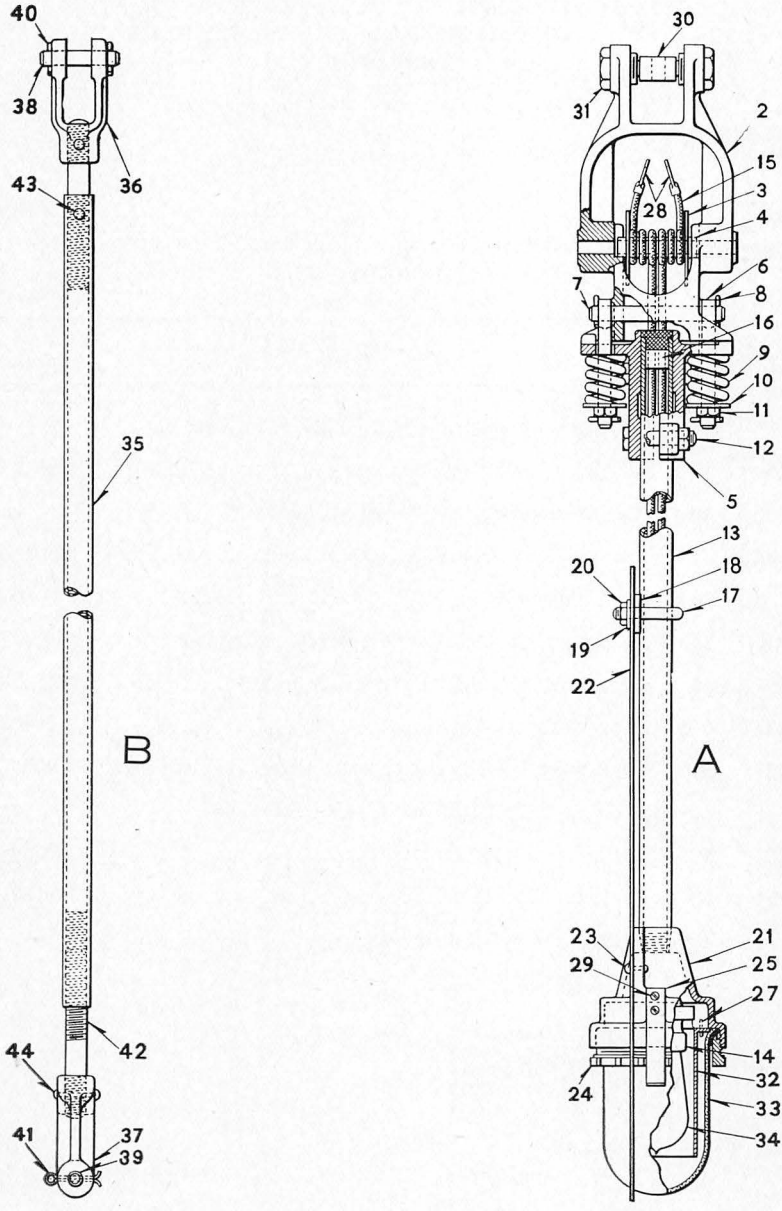
**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | **29** | **Plain Lock Washer, 1/4"** S. (1/8"x1/16") for Ref. 8. | |
| **75106** | **30** | **Bushing** | 8072–584 |
| | **31** | **Mach. Screw No. 10-30x3/4"** Fil. Hd. | |
| **48554** | **32** | **Screw** | 8098–464 |
| **74573** | **33** | **Lock Washer** | 8486–197 |
| **77995** | **34** | **Auxiliary Cam** (small) with rivets and fibre pads | C–8885–4 |
| **74095** | **35** | **Spring Shifter** (includes Refs. 35a to 40) | C–8885–4 |
| **74134** | **35a** | **Spring Shifter** only | C–8885–4 |
| **53097** | **36** | **Contact Spring Block** for Spring shifter Ref. 35 | 9968–320 |
| | **37** | **Rivet, 1/8"x1 3/8"** Rd. Hd. I. (Cad. Pl.) | |
| **74135** | **38** | **Roller** | 8350–597 |
| **33786** | **39** | **Pin** | 8097–211 |
| | **40** | **Cotter, 1/16"x3/8"** S. (Cad. Pl.) | |

PLATE K-17

UNION SWITCH & SIGNAL CO.




26 AND 45 NOT SHOWN

BANNER ARM AND OPERATING ROD DETAILS
STYLE "DW" AUTOMATIC FLAGMAN (D-C.)

UNION SWITCH & SIGNAL CO.

# BANNER ARM AND OPERATING ROD DETAILS STYLE "DW" AUTOMATIC FLAGMAN (D-C.)

See Plate K-18 For Latest Design of Banner

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Deference |
|---|---|---|---|
| **75600** | **A** | **Banner** (includes Refs. 2 to 31, Refs. 32 to 34 to be ordered separately.) (See Plate K-18 for latest design) | C–8884–4 |
| **75883** | **B** | **Operating Rod** (includes Refs. 35 to 44) | C–8884–9 |
| **75773** | **2** | **Bearing** | C–8884–3 |
| **67714** | **3** | **Ins. Washer** | 8078–1092 |
| **78292** | **4** | **Ins. Tubing** | B–10275–1 |
| **75760** | **5** | **Clamp** | C–8884–3 |
| **75761** | **6** | **Eye Bolt, 3/8"x3 3/8"** | 8034–145 |
| **34770** | **7** | **Pin, 3/8"x3 13/16"** | B–10209–1 |
| | **8** | **Cotter, 1/8"x3/4"** (Cad. Pl.) for Pin Ref. 7. | |
| **75762** | **9** | **Coil Spring** | 7770–288 |
| | **10** | **Std. Plate Washer, 3/8".** | |
| | **11** | **Nut, 3/8"** Hex. (Cad. Pl.) for Refs. 6 and 12. | |
| | **12** | **Bolt, 3/8"x1 3/4"** Hex. Hd. (Cad. Pl.) | |
| **75763** | **13** | **Pipe, 1/2"x2' 11 5/16"** | B–10925–1 |
| **86101** | **14** | **Lamp Receptacle** | B–9954–7 |
| **75765** | **15** | **Lead** | B–9998–9 |
| **75766** | **16** | **Plug** | C–7330–5 |
| **75767** | **17** | **"U" Bolt, 1/4"** | 8782–136 |
| **75768** | **18** | **Washer** | 7826–203 |

UNION SWITCH & SIGNAL CO.

## BANNER ARM AND OPERATING ROD DETAILS STYLE "DW" AUTOMATIC FLAGMAN (D-C.) (Continued)

**See Plate K-18 For Latest Design of Banner**

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **38149** | **19** | **Washer** | 7826–104 |
| | **20** | **Nut Std.,** 1/4″ Hex. | |
| **75769** | **21** | **Lamp Support** | C–8884–3 |
| **75770** | **22** | **Disc** | 10933–24 |
| | **23** | **Rivet,** 1/4″x1/2″ Rd. Hd. I. | |
| **75771** | **24** | **Nut** | 8082–160 |
| **75772** | **25** | **Spring** | 8735–530 |
| | **26** | **Machine Screw No. 6-40x5/8″** Fil. Hd. Br. (not shown). | |
| **47674** | **27** | **Pin** | 8097–350 |
| **68929** | **28** | **Terminal** for Lead Ref. 15 | 8064–471 |
| **73615** | **29** | **Machine Screw No. 6-40x3/8″** Fil. Hd. Br. | |
| **78392** | **30** | **Trunnion** for operating Rod connector | 8076–77 |
| **77791** | **31** | **Trunnion** | 8378–338 |
| **75812** | **32** | **Sleeve** | 8350–604 |
| **117796** | **33** | **Ruby Globe** | 8468–32 |
| **75813** | **34** | **Electric Lamp (13 Volts, 5 Watts)** (Medium Screw Base) for 10-Volt operation | B–12409–3 |
| **114325** | **34a** | **Electric Lamp (13 Volts, 5 Watts)** for 8-Volt operation | B–12409–3 |

UNION SWITCH & SIGNAL CO.

## BANNER ARM AND OPERATING ROD DETAILS STYLE "DW" AUTOMATIC FLAGMAN (D-C.) (Continued)

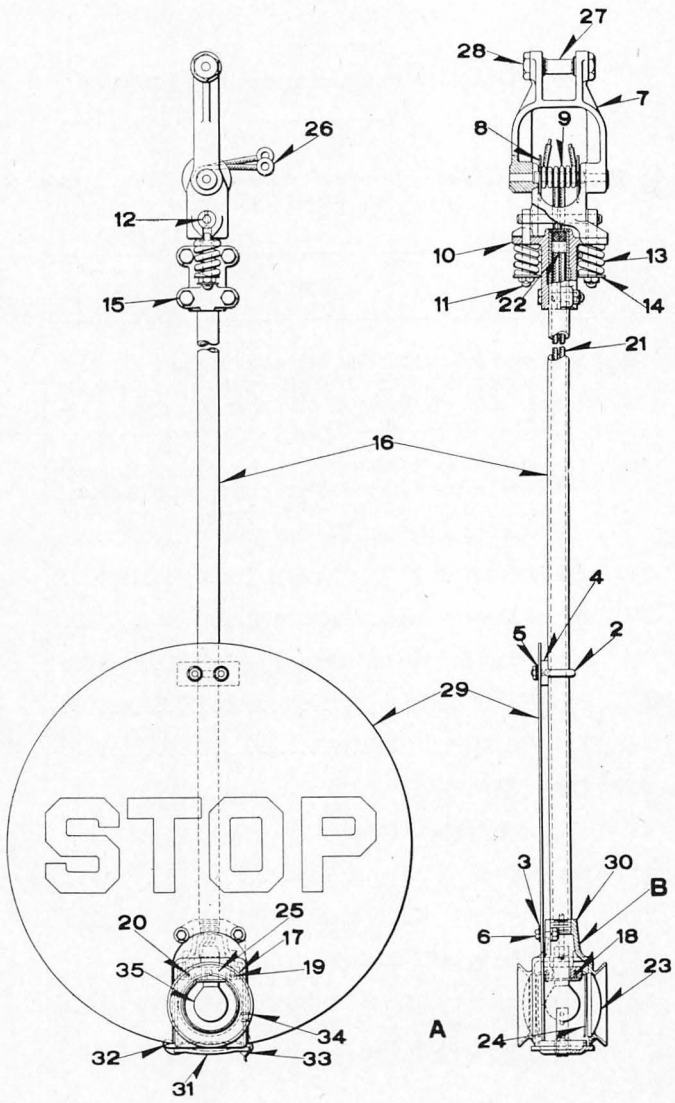
**See Plate K-18 For Latest Design of Banner**

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **120802** | **34b** | **Electric Lamp (12 Volts, .25 amp.)** (Single Contact Bayonet Base) for 10-Volt operation. Adapter Ref. 45 must be used with this lamp when applied to this style of Banner Arm | B–12409–12 |
| **120801** | **34c** | **Electric Lamp (10 Volts, .25 amp.)** (Single Contact Bayonet Base) for 8-Volt operation. Adapter Ref. 45 must be used with this lamp when applied to this style of Banner Arm | B–12409–12 |
| **75858** | **35** | **Operating Rod, 3′ 2¾″** for Ref. B | C–8884–9 |
| **80027** | **36** | **Screw Jaw** for Banner end of Ref. B | 7742–97 |
| **75860** | **37** | **Screw Jaw** for Mechanism end of Ref. B | 7742–97 |
| **75861** | **38** | **Pin, ⅜″x2″** for Ref. 36 | 8079–91 |
| **75811** | **39** | **Pin, ⅜″x1⅝″** for Ref. 37 | 8079–93 |
| | **40** | **Cotter, ⅛″x¾″.** | |
| | **41** | **Cotter, ⅛″x1⅜″.** | |
| **78619** | **42** | **Screw Stud, $\frac{9}{16}$″x4½″** | 8190–343 |
| | **43** | **Rivet, ⅛″x⅞″** Rd. Hd. I. | |
| | **44** | **Rivet, ⅛″x1⅛″** Rd. Hd. I. | |
| **119806** | **45** | **Adapter** (Single Contact Bayonet Candelabra to Medium Screw) for use with Lamps Refs. 34b and 34c (not shown) | 9954–57 |

PLATE K-18

UNION SWITCH & SIGNAL CO.




BANNER FOR STYLE "DW" AUTOMATIC FLAGMAN

UNION SWITCH & SIGNAL CO.

## BANNER FOR STYLE "DW" AUTOMATIC FLAGMAN

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **123199** | **A** | **Banner** lettered "STOP" without Lamp Bulb, Ref. 35 (includes Refs. 2 to 6) | C–8884–21 |
| **123201** | **Aa** | **Banner** lettered "STOP" with ¾" Black Rim around outer edge on both sides without Lamp Bulb, Ref. 35 (includes Refs. 2 to 6) | C–8884–21 |
| **123200** | **Ab** | **Banner,** lettered "STOP and ARRETEZ" without Lamp Bulb, Ref. 35 (includes Refs. 2 to 6) | C–8884–21 |
| **128940** | **Ac** | **Banner,** with 1" Black Rim around outer Edge, Black Cross in center and Background White without Lamp Bulb, Ref. 35 (includes Refs. 2 to 6) | C–8884–21 |
| **122887** | **Ad** | **Banner,** without Disc and Lamp Bulb Ref. 35 (includes Refs. 7 to 35) | C–8884–21 |
| **133966** | **B** | **Light Housing with Bayonet Socket, Base, Lenses and Springs** | C–8884–21 |
| **123892** | **Ba** | **Light Housing with Door** | C–8884–21 |
| **75767** | **2** | ¼" **U Bolt** with two ¼" Hex. Nuts | 8782–136 |
| **70539** | **3** | **Lead Washer** | 8274–73 |
| **75768** | **4** | **Plate Washer** | 7826–203 |
| **73099** | **5** | **Washer** | 7826–66 |
| | **6** | **Machine Bolt,** ¼"x¾" Hex. Hd. S. with ¼" Hex. Nut and ¼" Plain Lock Washer (Cad. Pl.) | |
| **75773** | **7** | **Bearing** | C–8884–3 |
| **67714** | **8** | **Washer** | 8078–1092 |
| **78292** | **9** | **Tubing** | B–10275–1 |

UNION SWITCH & SIGNAL CO.

## BANNER FOR STYLE "DW" AUTOMATIC FLAGMAN
(Continued)

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **75760** | **10** | **Clamp** | C–8884–3 |
| **75761** | **11** | **Eye Bolt** | 8034–145 |
| **34770** | **12** | **Pin, 3/8″x3 11/16″** with 1/8″x3/4″ Cotter | B–10209–1 |
| **75762** | **13** | **Spring** | 7770–288 |
| | **14** | **Washer, 3/8″** Std. Pl. for Ref. 13. | |
| | **15** | **Machine Bolt, 3/8″-16x1 3/4″** Hex. Hd. (Cad. Pl.) with 3/8″ Hex. Nut. | |
| **123204** | **16** | **Pipe** | B–10925–2 |
| **123205** | **17** | **Receptacle** | 12443–67 |
| | **18** | **Wood Screw No. 6x1/2″** Rd. Hd. Br. (Nickel Plated) | |
| | **19** | **Machine Screw No. 6-40x1/2″** Fil. Hd. Br. | |
| **34744** | **20** | **Washer** | 7828–69 |
| **75765** | **21** | **Wire Lead** | B–9998–9 |
| **75766** | **22** | **Plug** | C–7330–5 |
| **129505** | **23** | **Red Lens** | B–8276–32 |
| **123209** | **24** | **Spring** | 8124–210 |
| | **25** | **Plug Socket Single Bayonet Contact Base.** | |
| **45304** | **26** | **Terminal** | 8064–299 |
| **78392** | **27** | **Pin, 3/4″x2 1/2″** | 8076–77 |
| **77791** | **29** | **Trunnion** | 8378–338 |

UNION SWITCH & SIGNAL CO.

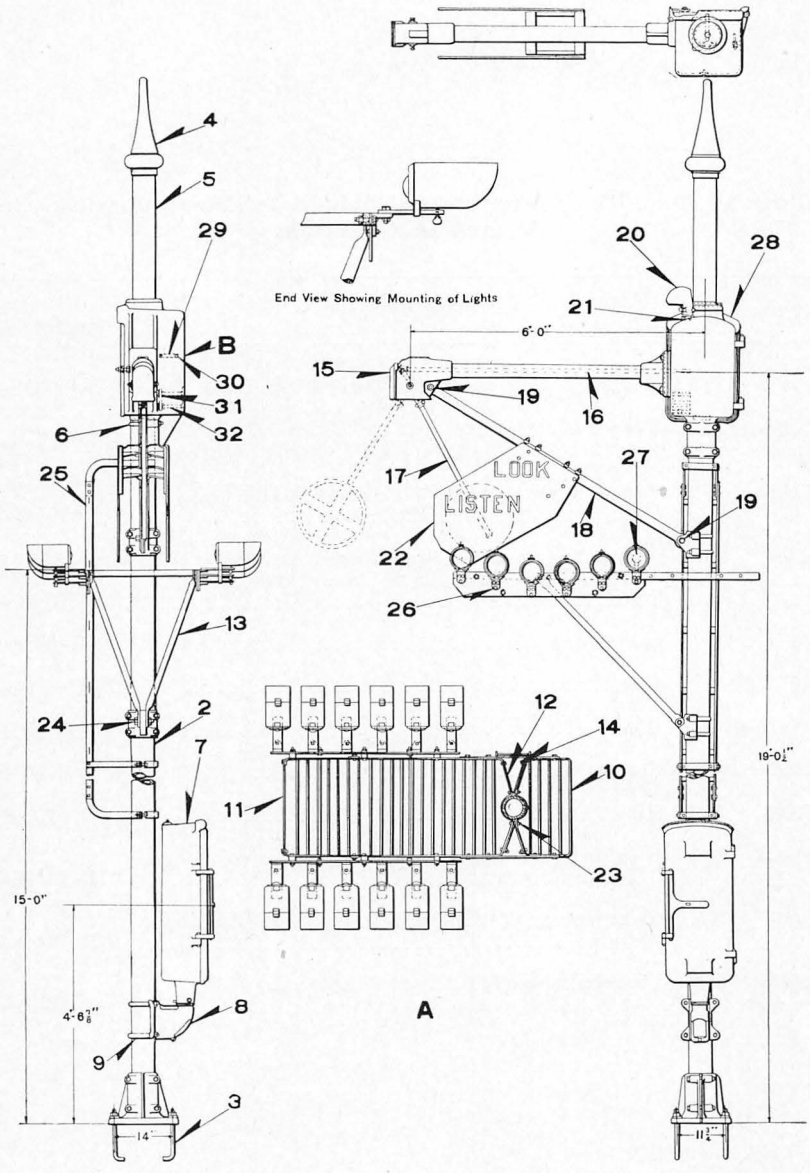
## BANNER FOR STYLE "DW" AUTOMATIC FLAGMAN (Continued)

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **123206** | **29** | **Banner Disc** (Lettered "STOP") for Ref. A | 10933–39 |
| **123187** | **29a** | **Banner Disc** (Lettered "STOP") with ¾" Black Rim around outer Edge on both sides for Ref. Aa | 10933–41 |
| **123186** | **29b** | **Banner Disc** (Lettered "STOP and ARRETEZ") for Ref. Ab | 10933–40 |
| **128938** | **29c** | **Banner Disc** with 1" Black Rim around outer Edge, Black Cross in Center and Background White for Ref. Ac | 10933–42 |
| **123224** | **30** | **Housing** | C–8884–20 |
| **121575** | **31** | **Door** | C–8884–22 |
| **65601** | **32** | **Rivet** | 10301–50 |
| **123207** | **33** | **Spring** | 8735–599 |
| **54920** | **34** | **Rivet** | 10301–1 |
| **120802** | **35** | **Electric Lamp (12 Volts, .25 amp.)** for 10 Volt Storage Battery operation | B–12409–12 |
| **120801** | **35a** | **Electric Lamp (10 Volts, .25 amp.)** for 8-Volt operation | B–12409–12 |
| **120803** | **35b** | **Electric Lamp (13.5 Volts, .25 amp.)** for 10-Volt (16 cell) primary battery operation | B–12409–12 |

PLATE K-49

UNION SWITCH & SIGNAL CO.




STYLE "DW" AUTOMATIC FLAGMAN WITH FLASHER ATTACHMENT ON PLATFORM

UNION SWITCH & SIGNAL CO.

## STYLE "DW" AUTOMATIC FLAGMAN (DC) WITH BRACH LIGHTS MOUNTED ON PLATFORM

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **135880** | **A** | **Style "DW" Automatic Flagman (DC)** with Pipe Post, Case and Mechanism, Relay Box and Ladder for 10-Volt operation 19′ 0½″ from base to center of Banner Arm | D–1995–2 |
| **82596** | **B** | **Case and Mechanism** Ref. A, Plate K-9 for 10-Volt operation | D–1995-1 |
| **82595** | **Ba** | **Case, without Mechanism** | D–1995–1 |
| **85031** | **2** | **5″ Pipe Post 17′ 11¼″ long** from bottom of socket to top of Post | B–9893–58 |
| **10276** | **3** | **Foundation Bolt 1″x3′ 0″** with 1″ Std. Plate Washer and 1″ Hex. Nut | 7913–54 |
| **68566** | **4** | **Pinnacle** | B–8121–11 |
| **82594** | **5** | **Upper Pipe and Socket** | B–12440–4 |
| **84705** | **6** | **"U" Bolt, ¾″** with ¾″ Hex. Nut and ¾″ Plain Lock Washer ($\frac{3}{16}$″x$\frac{3}{16}$″) for clamping Case to Pole | 8782–155 |
| **71016** | **7** | **Relay Box** | C–7976–10 |
| **71278** | **8** | **Bracket,** for mounting Relay Box Ref. 7 to Pole | C–8034–13 |
| **43931** | **9** | **"U" Bolt, ¾″** with ¾″ Hex. Nut for attaching Ref. 8 to Ref. 2 | 8782–66 |
| **84880** | **10** | **Platform Extension** | B–7501–65 |
| **135858** | **11** | **Platform** with Side Plates, Separators and Bolts | B–7501–65 |
| **85967** | **12** | **Clamp,** for attaching Refs. 10 and 11 to Ref. 2 | B–7501–65 |
| **85740** | **13** | **Brace** | C–8884–13 |

UNION SWITCH & SIGNAL CO.

## STYLE "DW" AUTOMATIC FLAGMAN (DC) WITH BRACH LIGHTS MOUNTED ON PLATFORM (Continued)

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | 14 | **Bolt,** ½″x1¼″ Sq. Hd. with ½″ Hex. Nut for attaching Ref. 12 to Ref. 11. | |
| 82483 | 15 | **Banner Arm** | C–8884–4 |
| 75991 | 16 | **Operating Rod** | C–8884–9 |
| 133339 | 17 | **Banner,** as shown | C–8884–14 |
| 75992 | 18 | **Shield Brace** | C–8884–3 |
| | 19 | **Bolt,** ⅝″x1¾″ Hex. Hd. S. with ⅝″ Plain Lock Washer (7/32″x⅛″) and ⅝″ Hex. Nut for attaching Ref. 18 to Pole and Banner Arm. | |
| 75589 | 20 | **Wire Outlet,** without Pipe | B–10342–9 |
| 85096 | 21 | **Piece 1½″ Pipe 5″ long** for Ref. 20 | B–10925–1 |
| 135877 | 22 | **Banner Mask,** as shown | C–8884–28 |
| 136832 | 23 | **Bolt,** ½″x2″ Sq. Hd. with ½″ Hex. Nut for attaching Ref. 12 to Refs. 10 and 11 | 8280–81 |
| | 24 | **Bolt,** ⅝″x3″ Hex. Hd. with Plain Lock Washer (7/32″ x⅛″) and Hex. Nut for attaching Ref. 13 to Pole | |
| 112192 | 25 | **Straight Ladder 11′ 1″ long** with Stays for Ref. A | B–10313–214 |
| | 26 | **Bolt,** 5/16″x1¼″ Hex. Hd. with Hex. Nut. | |
| 95829 | 27 | **Electric Lamp, 6-8 Volts** | B–12409–11 |
| 84731 | 28 | **Case (Casting)** only for Ref. Ba | C–8884–11 |
| 85046 | 29 | **Wire Guide** | 12443–21 |
| | 30 | **Machine Screw No. 14-24x1⅞″** Fil. Hd. S. with two Washers Ref. 30b for attaching Ref. 29 to Case. | |

UNION SWITCH & SIGNAL CO.

STYLE "DW" AUTOMATIC FLAGMAN (DC) WITH BRACH LIGHTS MOUNTED ON PLATFORM
(Continued)

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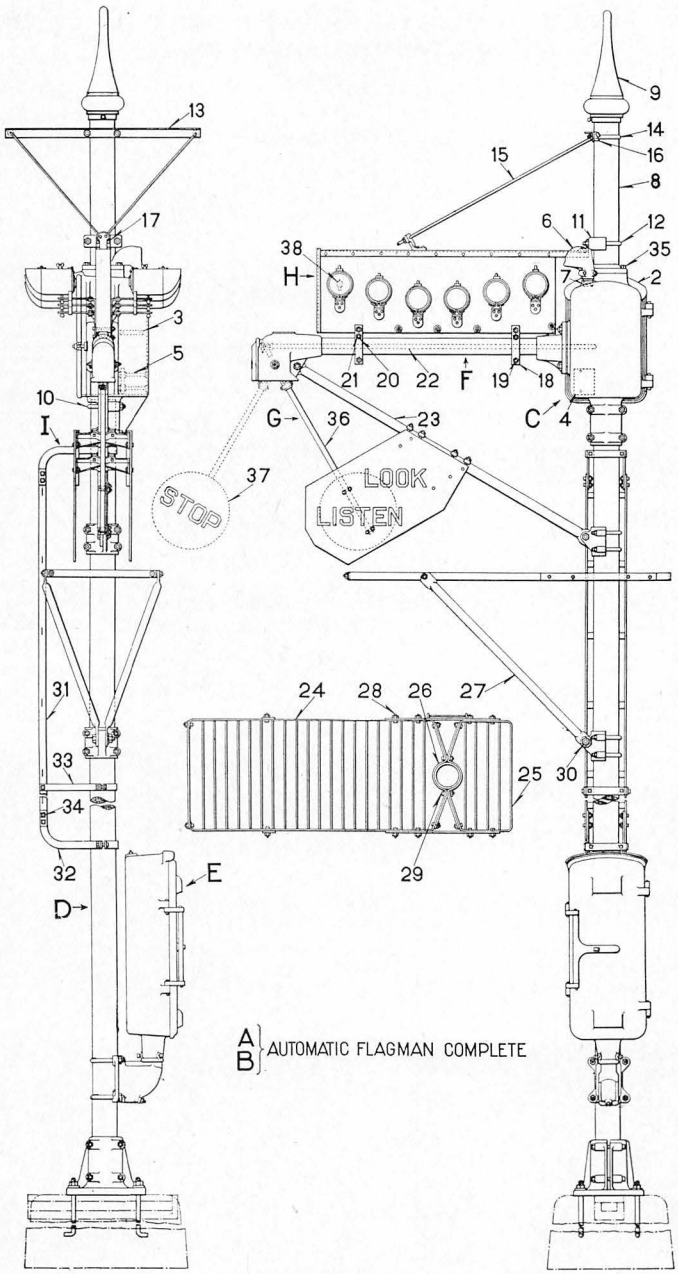
**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | **30a** | **Machine Screw only No. 14-24x1⅞″** Fil. Hd. S. for Ref. 30. | |
| **50682** | **30b** | **Washer** only for Ref. 30 | 7826–117 |
| **85045** | **31** | **Terminal Board** | 9968–565 |
| **85787** | **32** | **Stud, ⅝″x8⅜″** with Nuts and Washers for supporting Terminal Board, Ref. 31 | 8071–164 |

PLATE K-50

UNION SWITCH & SIGNAL CO.




STYLE "DW" AUTOMATIC FLAGMAN WITH FLASHER LIGHT ATTACHMENT ON BANNER ARM COMPLETE

UNION SWITCH & SIGNAL CO.

# STYLE "DW" AUTOMATIC FLAGMAN WITH FLASHER LIGHT ATTACHMENT ON BANNER ARM COMPLETE

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **85145** | **A** | **Automatic Flagman as shown with Post Ref. D, Mechanism Case Ref. Ca, and Relay Case Ref. E** | D–1995–1 |
| **99616** | **B** | **Automatic Flagman as shown with Post Ref. Da, Mechanism Case Ref. Cb, and Relay Case Ref. Ea.** | D–1995–1 |
| **82959** | **C** | **Case (No mechanism)** for Refs. A and B | D–1995–1 |
| **82596** | **Ca** | **Case Ref. C for Ref. A with Mechanism Ref. A, Plate K-9** | D–1995–1 |
| **99617** | **Cb** | **Case Ref. C for Ref. B with Mechanism Ref. A, Plate K-9, having flasher contacts Ref. A, Plate K-51** | D–1995–1 |
| **85031** | **D** | **5″ Post, 18′ 1¼″ long** for Ref. A, wherein the distance between center of banner arm and base is 19 feet (includes base and clamps, Plate K-5) | B–9893–58 |
| **99623** | **Da** | **5″ Post, 17′ 1¼″ long** for Ref. B, wherein the distance between center of banner arm and base is 18 feet (includes base and clamps, Plate K-5) | B–9893–58 |
| **71016** | **E** | **Relay Box** for Ref. A | C–7976–10 |
| **75602** | **Ea** | **Relay Box** for Ref. B | C–7976–13 |
| **82483** | **F** | **Banner Arm** | C–8884–4 |
| **82464** | **G** | **Banner** | C–8884–14 |
| **84758** | **H** | **Lamp Supporting Box** without lamp supporting brackets for Ref. A | C–8884–12 |
| **99626** | **Ha** | **Lamp Supporting Box** with lamp supporting brackets for Ref. B | C–8884–12 |
| **112192** | **I** | **Ladder** for Refs. A and B | B–10313–214 |
| **84731** | **2** | **Case** (casting) only for Ref. C | C–8884–11 |

UNION SWITCH & SIGNAL CO.

## STYLE "DW" AUTOMATIC FLAGMAN WITH FLASHER LIGHT ATTACHMENT ON BANNER ARM COMPLETE (Continued)

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **85046** | **3** | **Wire Guide** | 12443–21 |
| | **3a** | **Mach. Screw No. 14-24x1⅞″** Fil. Hd. St. for Ref. 3 | |
| **50682** | **3b** | **Washer** for Ref. 3a | 7826–117 |
| **85045** | **4** | **Terminal Board** | 9968–565 |
| **85787** | **5** | **Stud, ⅝″x8⅜″** for supporting Ref. 4 | 8071–164 |
| **97304** | **5a** | **Nut** for Ref. 5 | 8265–6 |
| **33010** | **5b** | **Washer** for Ref. 5 | 7826–89 |
| **75589** | **6** | **Wire Outlet** (Without Conduit Ref. 7) | B–10342–9 |
| **85096** | **7** | **Pipe Conduit, 1½″x5″** for Ref. 6 | B–10925–1 |
| **82594** | **8** | **Upper Post and Socket** | B–12440–4 |
| **68566** | **9** | **Pinnacle** | B–8121–11 |
| **84705** | **10** | **"U"-Bolt, ¾″** for clamping case to pole | 8782–155 |
| | **10a** | **Lock Washer, ¾″** for Ref. 10. | |
| | **10b** | **Nut, ¾″** Hex. for Ref. 10. | |
| **84732** | **11** | **Clamp** for supporting Refs. H and Ha | B–6821–29 |
| **84706** | **12** | **"U"-Bolt, ⅝″** for Ref. 11 | 8782–156 |
| | **12a** | **Nut, ⅝″** Hex. for Refs. 12 and 30. | |
| | **12b** | **Lock Washer, ⅝″.** | |
| **86842** | **13** | **Angle Brace, 3′ 6″** | C–8884–13 |
| **84747** | **14** | **"U" Bolt, ⅝″** | 8782–157 |

UNION SWITCH & SIGNAL CO.

## STYLE "DW" AUTOMATIC FLAGMAN WITH FLASHER LIGHT ATTACHMENT ON BANNER ARM COMPLETE (Continued)

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **85962** | **15** | **Guy Rod, ½″x4′ 5½″** for supporting Refs. H and Ha | 8280–81 |
| **85815** | **16** | **Cast Washer** between Ref. 13 and head of Ref. 15 | 8065–193 |
| | **17** | **Cap Screw, ½″x¾″** Hex. Hd. | |
| | **17a** | **Lock Washer, ½″** for Ref. 17. | |
| **84843** | **18** | **Clamp** supporting Refs. H and Ha on banner arm Ref. F | C–8884–13 |
| | **19** | **Bolt, ½″x1½″** Sq. Hd. for Refs. 18 and 27. | |
| | **20** | **Bolt, ½″x4½″** Sq. Hd. for Ref. 18. | |
| **44778** | **21** | **Separator** on Ref. 20 | B–10328–1 |
| **75991** | **22** | **Operating Rod (5′ 10¾″)** | C–8884–9 |
| **76065** | **22a** | **Operating Rod only (5′ 2¾″)** | C–8884–9 |
| **75992** | **23** | **Brace, 6′ 1″,** for supporting Ref. E, Plate K-5 | C–8884–3 |
| **84877** | **24** | **Platform (main)** | B–7501–65 |
| **84880** | **25** | **Platform Extension** | B–7501–65 |
| **85967** | **26** | **Clamp** for Refs. 24 and 25 | B–7501–65 |
| **85740** | **27** | **Brace** for Ref. 24 | C–8884–13 |
| | **28** | **Bolt, ½″x1¼″** Sq. Hd. for Refs. 24 and 25. | |
| **36832** | **29** | **Bolt, ½″x2″** for Refs. 26, 32 and 33 | 8280–81 |
| | **29a** | **Nut, ½″** Hex. for Refs. 19, 20, 28, 29 and 34. | |
| | **30** | **Bolt, ⅝″x3″** Hex. Hd. | |

UNION SWITCH & SIGNAL CO.

## STYLE "DW" AUTOMATIC FLAGMAN WITH FLASHER LIGHT ATTACHMENT ON BANNER ARM COMPLETE (Continued)

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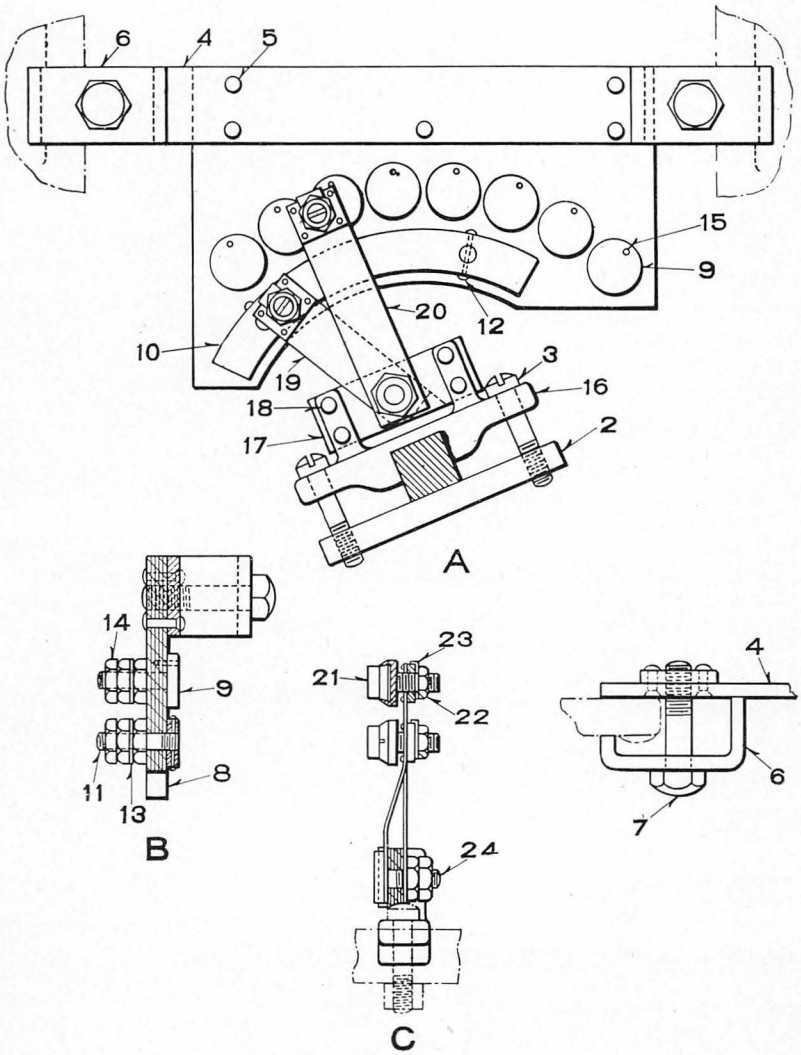
**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **85068** | **31** | **Straight Ladder, 10′ 9″ long** | B–10313–214 |
| **85066** | **32** | **Bent Ladder Stay (13″ centers)** | B–7501–51 |
| **85087** | **33** | **Straight Ladder Stay (13″ centers)** | B–7501–51 |
| | **34** | **Bolt, ½″x1″** Sq. Hd. for fastening Ref. 31 to Refs. 32 and 33. | |
| | **35** | **Tap Bolt, ¾″x2½″** Hex. Hd. | |
| **82462** | **36** | **Pipe only, ½″x3′ 3¼″** | B–10920–6 |
| **82463** | **37** | **Disc** | 10933–24 |
| **95829** | **38** | **Electric Lamp** | B–12409–11 |
| | | Only such parts are cataloged in the above list as are different from those used in the Standard Signal Plate K-1 details, K-5, 9, 11, 13, 15 and 17. | |

UNION SWITCH & SIGNAL CO.




FLASHER CIRCUIT CONTROLLER ASSEMBLY AND DETAILS
STYLE "DW" AUTOMATIC FLAGMAN (D-C.)

UNION SWITCH & SIGNAL CO.

## FLASHER CIRCUIT CONTROLLER ASSEMBLY AND DETAILS STYLE "DW" AUTOMATIC FLAGMAN (D-C.)

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **75752** | **A** | **Flasher Circuit Controller** (includes Refs. B, C, 2 and 3) | C–8974–1 |
| **74898** | **B** | **Terminal Board and Clamps** (includes Refs. Ba, 4, 5, 6 and 7) | C–8974–1 |
| **74837** | **Ba** | **Terminal Board** (includes Refs. 8 to 15) | 9968–602 |
| **74832** | **C** | **Contact Spring Board** (includes Refs. 16 to 22) | 9968–600 |
| **74151** | **2** | **Clamping Plate** for Ref. C | 9999–113 |
| | **3** | **Mach. Screw No. 10-30x1″** Fil. Hd. Br. for Ref. 2. | |
| **74477** | **4** | **Supporting Plate** for Ref. A | C–8885–5 |
| **54937** | **5** | **Rivet** for securing Ref. Ba to Ref. 4 | 10301–50 |
| **74199** | **6** | **Clamp** for securing Ref. 4 to mechanism frame | 9999–114 |
| | **7** | **Cap Screw, ¼″x1″** Hex. Hd. (Cad. Pl.) for Ref. 6. | |
| **71618** | **8** | **Terminal Board** only for Ref. Ba | 9968–601 |
| | **9** | **Terminal Post** (includes Refs. 9a, 13 and 14) | 12451 |
| **71624** | **9a** | **Terminal Post** only | 8094–2078 |
| **74744** | **10** | **Contact Plate** | 8429–177 |
| | **11** | **Terminal Post** (includes Refs. 11a, 13 and 14) | 12451 |
| **71620** | **11a** | **Terminal Post** only | 8094–2076 |
| **54926** | **12** | **Rivet** for Ref. 11 | 10301–11 |
| **83** | **13** | **Washer** for Refs. 9 and 11 | 7828–3 |

PLATE K-51

UNION SWITCH & SIGNAL CO.

FLASHER CIRCUIT CONTROLLER ASSEMBLY AND DETAILS
STYLE "DW" AUTOMATIC FLAGMAN (D-C.)
(Continued)

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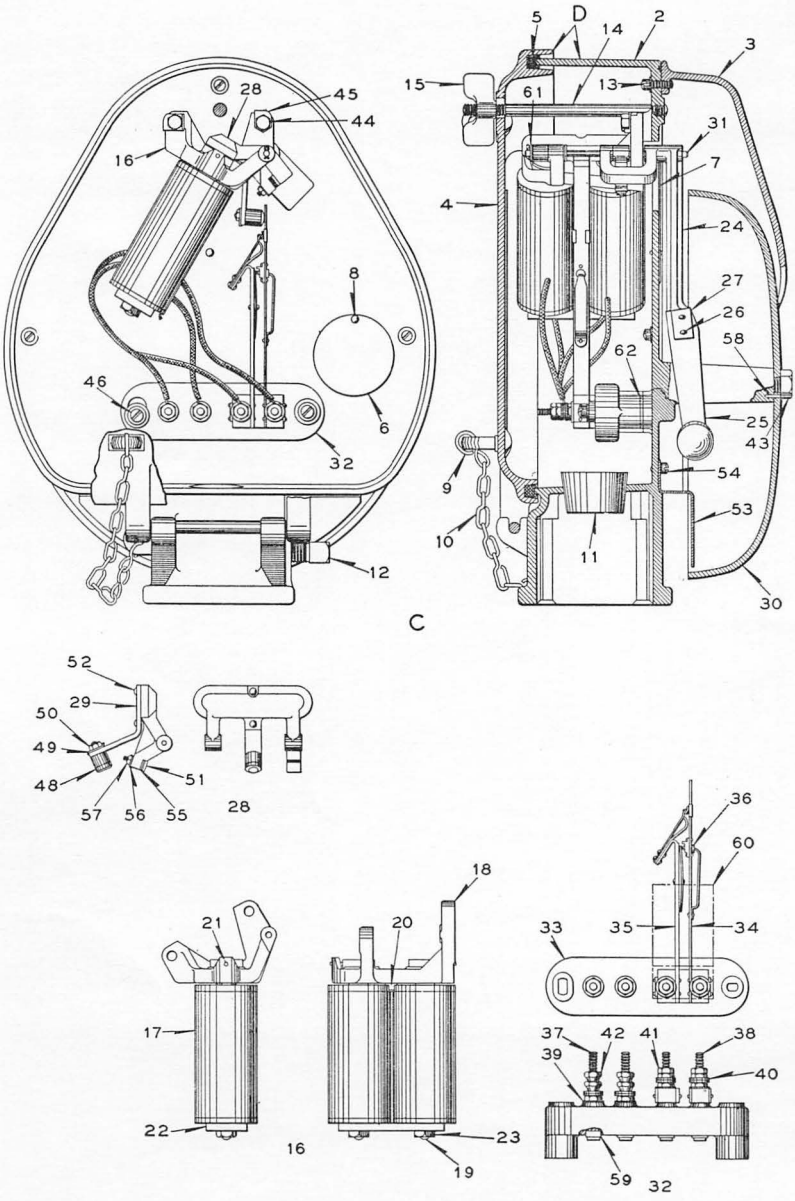
Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **44230** | **14** | **Nut** for Refs. 9, 11 and 24 | 8109–218 |
| **25948** | **15** | **Pin** for Ref. 9 | 8097–167 |
| **74445** | **16** | **Contact Bracket** for clamping on main shaft Ref. 9, Plate K-9 | C–8885–7 |
| **71619** | **17** | **Contact Spring Board** | 9968–600 |
| **54922** | **18** | **Rivet** for securing Ref. 17 to Ref. 16 | 10301–1 |
| | **19** | **Contact Spring** (includes Refs. 19a and 21). | |
| **74592** | **19a** | **Contact Spring** | 8385–1880 |
| | **20** | **Contact Spring** (includes Refs. 20a and 21). | |
| **74564** | **20a** | **Contact Spring** | 8385–1879 |
| | **21** | **Contact Post** (includes Refs. 21a, 22 and 23) | 12451 |
| **77061** | **21a** | **Contact Post** (without Refs. 22 and 23) | 8094–2079 |
| **9154** | **22** | **Nut** for Ref. 21 | 8109–72 |
| **74636** | **23** | **Lock Washer** for Ref. 21 | 8486–197 |
| | **24** | **Terminal Post** (includes Refs. 24a and 14) | 12451 |
| **71621** | **24a** | **Terminal Post** | 8094–2077 |

UNION SWITCH & SIGNAL
DIVISION OF WESTINGHOUSE AIR BRAKE CO.




# Model "15-A" D.C. Crossing Bell

# Model "15-A" D.C. Crossing Bell

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

**Model "15-A" D.C. Crossing Bell, complete, Coils.....ohms per pair. Arranged for Mounting Direct on 3″ Pipe. (Specify Resistance of Coils.)**

| Piece | Ref. | Operating Voltage | Resistance Per Pair of Coils | Drawing Reference |
|---|---|---|---|---|
| **81066** | C | 3-Volts | 4-Ohms | C–8807–1 |
| **195454** | Ca | | 6.8-Ohms | C–8807–1 |
| **70196** | Cb | 6-Volts | 10-Ohms | C–8807–1 |
| **86181** | Cc | 8-Volts | 20-Ohms | C–8807–1 |
| **171022** | *Cd | | 20-Ohms | C–8807–1 |
| **74357** | Ce | 10-Volts | 31-Ohms | C–8807–1 |
| **171021** | *Cf | | 31-Ohms | C–8807–1 |
| **77856** | Cg | 12-Volts | 40-Ohms | C–8807–1 |
| **192719** | Ch | 13-Volts | 50-Ohms | C–8807–1 |
| **120352** | Cj | 20-Volts | 100-Ohms | C–8807–1 |
| **136505** | Ck | 32-Volts | 260-Ohms | C–8807–1 |
| **174371** | Cm | | 500-Ohms | C–8807–1 |
| | Cn | 61-Volts | 1000-Ohms | C–8807–1 |
| **92393** | Cp | 110-Volts | 3000-Ohms | C–8807–1 |
| **260822** | *Cq | | 3000-Ohms | C–8807–1 |
| **79654** | Cr | 220-Volts | 5000-Ohms | C–8807–1 |
| | Cs | 500 to 600-Volts | 21000-Ohms | C–8807–1 |

*Equipped with Condenser for radio interference elimination

# Model "15-A" D.C. Crossing Bell

**(Continued)**

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **74356** | **D** | **Case and Cover.** (Includes 1-2, 1-3, 1-4, 1-6, 1-7, 2-8, 2-9, 1-10, 1-11, 1-12, 3-13, 1-14, 1-15, 1-53 and 3-54) | C–8807–1 |
| **84964** | **Da** | **Case** (Without cover) (Includes 1-2, 1-3, 1-6, 1-7, 2-8, 2-9, 1-10, 1-11, 1-12, 3-13, 1-14, 1-15, 1-53 and 3-54) | C–8807–1 |
| **136396** | **2** | **Box and Mechanism Plate Only** | C–8808–3 |
| **136397** | **3** | **Hood Only** | C–8808–4 |
| **74355** | **4** | **Cover** with Gasket | C–8808–1 |
| | **5** | **Jute Packing,** ⅜″ Sq. 3′ 7¼″ long for Ref. 4 | |
| **61362** | **6** | **Shield** | C–8808–2 |
| **61363** | **7** | **Shield** | C–8808–3 |
| **54937** | **8** | **Rivet** for Refs. 6 and 7 | 10301–51 |
| | **9** | **No. 1 S. Hook** (C.N. 56179) (Cad. Pl.) | |
| | **10** | **No. 8, 6-Link Single Jack Chain** (C.N. 61109) (Cad. Pl.) | |
| **61928** | **11** | **Wire Guide** | C–7330–1 |
| | **12** | **Set Screw,** ⅝″-11x1″ Cup Point I. (C.N. 50598) (Cad. Pl.) | |
| | **13** | **Machine Screw,** No. 14-24x¾″ Fil. Hd. S. (C.N. 52325) (Tin Pl.) with ¼″ Plain S. Lock Washer (C.N. 47775) (Tin Pl.) | |
| **61403** | **14** | **Stud** | 8114–225 |
| **111526** | **15** | **Wing Nut** for Ref. 14 | 8331–65 |

**Magnet Bracket, Complete with Cores, Stud, Pins, Backstrap, Nuts and Coils as shown. Coils.....ohms per pair. (Specify Resistance when Ordering)**

| Piece | Ref. | Resistance Per Pair | Drawing Reference |
|---|---|---|---|
| **81067** | **16** | 4-Ohms | B–12438–33 |

# Model "15-A" D.C. Crossing Bell

(Continued)

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Resistance Per Pair | Drawing Reference |
|---|---|---|---|
| **70234** | **16a** | 10-Ohms | B–12438–33 |
| **86180** | **16b** | 20-Ohms | B–12438–33 |
| **74363** | **16c** | 31-Ohms | B–12438–33 |
| **77843** | **16d** | 40-Ohms | B–12438–33 |
| **120351** | **16e** | 100-Ohms | B–12438–33 |
| **136504** | **16f** | 260-Ohms | B–12438–33 |
| **92392** | **16g** | 3000-Ohms | B–12438–33 |
| **79655** | **16h** | 5000-Ohms | B–12438–33 |
| | **16j** | 21000-Ohms | B–12438–33 |
| | **16k** | 500-Ohms | B–12438–33 |
| | **16m** | 50-Ohms | B–12438–33 |
| | **16n** | 6.8-Ohms | B–12438–33 |

**Coil with Leads and Terminal, complete. .....ohms each coil**
**(Specify Resistance when Ordering)**

| Piece | Ref. | Resistance | Drawing Reference |
|---|---|---|---|
| **81071** | **17** | 2-Ohms | 8133–312 |
| **74446** | **17a** | 5-Ohms | 8133–312 |
| **86177** | **17b** | 10-Ohms | 8133–312 |
| **74358** | **17c** | 15.5-Ohms | 8133–312 |
| **77821** | **17d** | 20-Ohms | 8133–312 |
| **120350** | **17e** | 50-Ohms | 8133–312 |
| **136503** | **17f** | 130-Ohms | 8133–312 |
| **92394** | **17g** | 1500-Ohms | 8133–312 |
| **79656** | **17h** | 2500-Ohms | 8133–312 |

# Model "15-A" D.C. Crossing Bell

**(Continued)**

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Resistance | Drawing Reference |
|---|---|---|---|
| | **17j** | 10500-Ohms | 8133–312 |
| **174370** | **17k** | 250-Ohms | 8133–412 |
| **192718** | **17m** | 25-Ohms | 8133–312 |
| **195452** | **17n** | 3.7-Ohms | 8133–312 |
| **195453** | **17p** | 3.1-Ohms | 8133–412 |

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **97308** | **18** | **Magnet Bracket** with Cores, Stud, Pins, Backstrap and Nuts (without Coils) | B–12438–33 |
| **61376** | **18a** | **Magnet Bracket Only** for Ref. 18 | 8075–199 |
| **61378** | **19** | **Core** | 8101–231 |
| **61375** | **20** | **Stud** | 8750–1769 |
| **37163** | **21** | **Pin** | 8097–279 |
| **61374** | **22** | **Backstrap** | 8162–174 |
| **51610** | **23** | **Nut** for Ref. 19 | 8265–161 |
| **61359** | **24** | **Clapper Arm Only** | C–8808–2 |
| **70198** | **24a** | **Clapper Arm** with Clapper Ref. 25 | C–8808–2 |
| **74364** | **25** | **Clapper** | C–8808–2 |
| | **26** | **Rivet,** $\frac{3}{16}$"x$\frac{3}{4}$" Rd. Hd. I. (C.N. 49434) for attaching Ref. 25 to Ref. 24. | |
| **61379** | **27** | **Washer** for Refs. 24 and 25 | 7826–202 |
| **97406** | **28** | **Armature,** as shown | C–8808–2 |
| **61377** | **28a** | **Armature Only,** for Ref. 28 | 8157–256 |
| | **29** | **Operating Arm** with Bushing, Hex. Nut and Lock Washer for Ref. 28 | C–8808–2 |
| **61360** | **29a** | **Operating Arm Only,** for Ref. 29 | C–8808–2 |

# Model "15-A" D.C. Crossing Bell

(Continued)

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

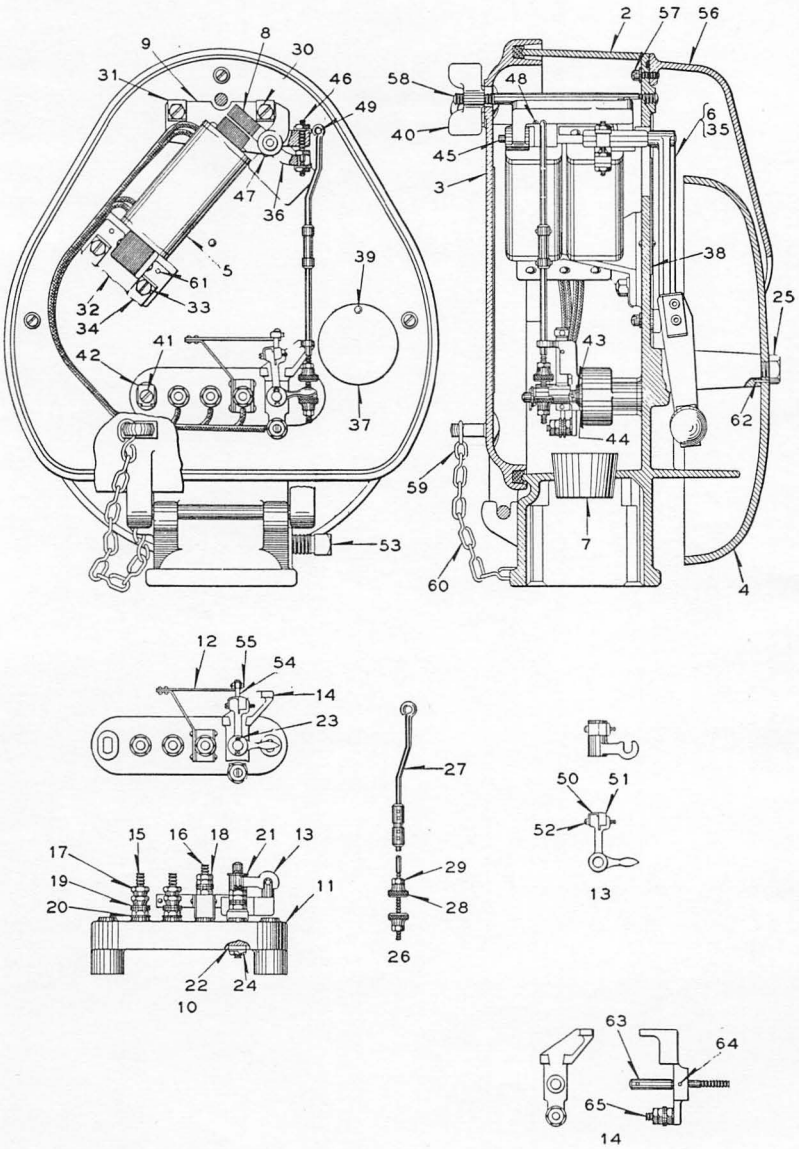
| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **63312** | **30** | **Gong** | B–8379–4 |
| **61700** | **31** | **Shaft** with two $\frac{1}{16}$"x$\frac{3}{8}$" Cotters (C.N. 48601) (Tin Pl.) | 8097–719 |
| **70235** | **32** | **Terminal Board** with Contact Springs and Terminal Posts (Without Condenser for radio interference elimination) | 9968–384 |
| **171020** | **32a** | **Terminal Board** with Contact Springs, Terminal Posts and Condenser as shown in dot and dash lines (For radio interference elimination) | 9968–1035 |
| **81427** | **33** | **Terminal Board Only,** for Refs. 32 and 32a | 9968–381 |
| **131429** | **34** | **Contact Spring,** for Refs. 32 and 32a | 8385–1530 |
| **74362** | **35** | **Contact Spring,** for Refs. 32 and 32a | 8385–1529 |
| **61537** | **36** | **Contact Tip,** for Ref. 34 | 8341–358 |
| | **37** | **Terminal Post** with Nuts and Washers for Refs. 32 and 32a (Inc. 1-37a, 1-39, 3-40, 2-41, 2-42 and 1-59) | 12451 |
| **118271** | **37a** | **Terminal Post Only,** for Refs. 37 and 38 | 8094–1192 |
| | **38** | **Terminal Post** with Nuts and Washers for Refs. 32 and 32a (Inc. 1-37a, 1-39, 2-40, 3-41 and 1-59) | 12451– |
| **29104** | **39** | **Washer** for Refs. 37 and 38 | 7828–138 |
| **29102** | **40** | **Washer** for Refs. 37 and 38 | 7828–139 |
| **29103** | **41** | **Hex. Nut** for Refs. 37 and 38 | 8109–194 |
| **29101** | **42** | **Hex. Nut** for Ref. 37 | 8109–193 |
| **40372** | **43** | **Screw** | C–7377–2 |
| | **44** | **Cap Screw,** $\frac{5}{16}$"-18x$\frac{7}{8}$" Hex. Hd. S. (C.N. 50037) (Cad. Pl.) | |
| **21439** | **45** | **Lock Washer** for Ref. 44 | 8486–70 |
| | **46** | **Machine Screw,** No. 14-24x2$\frac{1}{8}$" Fil. Hd. S. (C.N. 52336) (Tin Pl.) with Std. Plate Washer (C.N. 47500) (Tin Pl.) for Refs. 32 and 32a | |

# Model "15-A" D.C. Crossing Bell

(Continued)

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **61373** | **48** | **Bushing** for Ref. 28 | 8095–527 |
| **79652** | **49** | **Nut Lock** for Ref. 28 | 8486–102 |
| **1515** | **50** | **Hex. Nut** for Ref. 28 | 8109–23 |
| | **51** | **Stud** with Washers, Lock Washer and Nut for Ref. 28 | 8098–1200 |
| **62306** | **51a** | **Stud Only,** for Ref. 51 | 8098–1200 |
| | **52** | **Rivet,** ⅛"x½" Rd. Hd. I. (C.N. 49409) (Cad. Pl.) for attaching Ref. 29a to Ref. 28a. | |
| **180652** | **53** | **Shield** | 10914–489 |
| | **54** | **Machine Screw,** No. 10-30x⅜" Fil. Hd. S. (C.N. 52277) (Tin Pl.) with No. 10 Plain S. Lock Washer (C.N. 47733) (Tin Pl.) | |
| **62307** | **55** | **Washer** | 8486–197 |
| **62309** | **56** | **Nut Lock** | 8486–197 |
| **73494** | **57** | **Nut** | 8265–126 |
| **43654** | **58** | **Pin** | 8097–448 |
| **188259** | **59** | **Lock Washer** | 8486–310 |
| **190169** | **60** | **Condenser Complete** | B–12549–29 |
| **53** | **61** | **Washer** | 7828–5 |
| **170935** | **62** | **Washer** (Cork) | 8078–1499 |




# Style "AH" A.C. Crossing Bell

# Style "AH" A.C. Crossing Bell

**Use this Plate only for ordering detail parts of original design; see Plate K-91 for later design of A.C. Bell.**

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | 2 | **Case Complete** with Shields, Pins, Stud, Nut, Set Screw, Machine Screw and Chain | C–8913–1 |
| 139067 | 2a | **Case Only** | C–8914–3 |
| 74355 | 3 | **Cover,** with Gasket Ref. 3a | C–8808–1 |
| | 3a | **Jute Packing,** ⅜″ Sq. x 3′ 7¼″ long for Ref. 3. | |
| 63312 | 4 | **Gong Only** | B–8379–4 |
| 81166 | 5 | **Coil,** 110 volts, 60 cycles | 8133–187 |
| 116874 | 5a | **Coil,** 110 volts, 50 cycles | 8133–187 |
| 95697 | 5b | **Coil,** 110 volts, 25 cycles | 8133–187 |
| 127906 | 5c | **Coil,** 220 volts, 60 cycles | 8133–187 |
| 81163 | 6 | **Clapper Arm Complete** | C–8914–1 |
| 61928 | 7 | **Wire Guide** | C–7330–1 |
| 81168 | 8 | **Armature Complete** | 8157–285 |
| 70914 | 9 | **Armature Bracket Complete** | 8303–81 |
| 81167 | 10 | **Terminal Board** with Contact Spring and Arm | 9968–503 |
| 81427 | 11 | **Terminal Board Only** | 9968–381 |
| 81160 | 12 | **Contact Spring** | 8385–1747 |
| 81164 | 13 | **Contact Arm** | C–8914–1 |
| 81148 | 13a | **Contact Arm Only** | C–8914–1 |
| 81162 | 14 | **Supporting Guide** with Stud, Screw, Nuts and Washers | C–8914–1 |
| 81150 | 14a | **Supporting Guide Only** | C–8914–1 |
| | 15 | **Terminal Post** with Nuts and Washers | 12451– |
| 31668 | 15a | **Terminal Post Only,** for Ref. 15 | 8094–706 |
| | 16 | **Terminal Post** with Nuts and Washers | 12451– |

# Style "AH" A.C. Crossing Bell

**Use this Plate only for ordering detail parts of original design; see Plate K-91 for later design of A.C. Bell.**

(Continued)

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **54080** | **16a** | **Terminal Post Only** for Ref. 16 | 8094–797 |
| **29101** | **17** | **Hex. Nut** for Ref. 15 | 8109–193 |
| **29103** | **18** | **Hex. Nut** for Refs. 14, 15 and 16 | 8109–194 |
| **29102** | **19** | **Washer** for Refs. 15 and 16 | 7828–139 |
| **29104** | **20** | **Washer** for Ref. 15 | 7828–138 |
| **29256** | **21** | **Washer** for Ref. 14 | 7828–141 |
| **81268** | **22** | **Washer** for Ref. 14 | 7826–224 |
| | **23** | **Cotter,** $\frac{3}{32}$"x$\frac{3}{4}$" S. (C.N. 48611) (Cad. Pl.) for Ref. 14 | |
| **66698** | **24** | **Lock Washer** for Ref. 14 | 8486–267 |
| **40372** | **25** | **Tap Bolt,** $\frac{1}{2}$"x1$\frac{1}{8}$" for attaching Gong to Mechanism Plate | C–7377–2 |
| **111381** | **26** | **Operating Rod** | 12471–12 |
| **81161** | **27** | **Operating Rod** for Ref. 26 | 8098–1364 |
| **81279** | **28** | **Adjusting Nut** for Ref. 26 | 8265–220 |
| **113544** | **29** | **Hex. Nut** for Ref. 26 | 8265–238 |
| **65019** | **30** | **Cap Screw** for Ref. 9 | 8190–312 |
| **21439** | **31** | **Lock Washer** for Ref. 30 | 8486–70 |
| **77789** | **32** | **Magnet Core Complete** | 8101–123 |
| **81278** | **33** | **Cap Screw** for Ref. 32 | 8190–329 |
| **21437** | **34** | **Lock Washer** for Ref. 33 | 8486–70 |
| **81149** | **35** | **Clapper Arm Only,** for Ref. 6 | C–8914–1 |
| **81270** | **36** | **Armature Bar Only,** for Ref. 8 | 8130–297 |
| **61362** | **37** | **Shield** | C–8808–2 |
| **61363** | **38** | **Shield** | C–8808–2 |
| **54937** | **39** | **Rivet** for attaching Shields to Mechanism Plate | 10301–50 |

# Style "AH" A.C. Crossing Bell

**Use this Plate only for ordering detail parts of original design; see Plate K-91 for later design of A.C. Bell.**

**(Continued)**

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **111526** | **40** | **Wing Nut** for retaining Cover to Box | 8331–65 |
| | **41** | **Machine Screw,** No. 14-24x2⅛″ Fil. Hd. S. (C.N. 52336) (Cad. Pl.) for attaching Terminal Board to Mechanism Plate | |
| **81274** | **42** | **Lock Washer** for Ref. 41 | 8486–342 |
| **73099** | **43** | **Washer** for Ref. 41 | 7826–66 |
| **37809** | **44** | **Ins. Washer** for Ref. 41 | 8078–422 |
| **81273** | **45** | **Armature Shaft** | 8097–994 |
| **111380** | **46** | **Adjusting Screw** with Nuts and Lock Washers | 12471–14 |
| **81277** | **46a** | **Adjusting Screw Only,** for Ref. 46 | 8098–1361 |
| **73488** | **46b** | **Hex. Nut** for Ref. 46 | 8265–111 |
| **81276** | **46c** | **Lock Washer** for Ref. 46 | 8486–277 |
| | **47** | **Cotter,** 1/16″x¾″ S. (C.N. 48605) (Cad. Pl.) for Ref. 45 | |
| | **48** | **Cotter,** 1/16″x½″ S. (C.N. 48603) (Cad. Pl.) for Ref. 49 | |
| **81179** | **49** | **Pin** | 8063–130 |
| **81264** | **50** | **Contact Tip** for Ref. 13 | 8341–453 |
| **81265** | **51** | **Insulation** for Ref. 13 | 8750–2034 |
| | **52** | **Machine Screw,** No. 6-40x⅝″ Fil. Hd. Brass (C.N. 71268) | |
| | **53** | **Set Screw,** ⅝″-11x1″ Cup Point (C.N. 50598) (Cad. Pl.) | |
| **81263** | **54** | **Contact Tip** for Ref. 12 | 8341–454 |
| | **55** | **Machine Screw,** No. 4-48x⅜″ Fil. Hd. Brass, with Hex. Nut Ref. 55a for Ref. 12 | |
| **38337** | **55a** | **Hex. Nut** for Ref. 55 | 8109–255 |

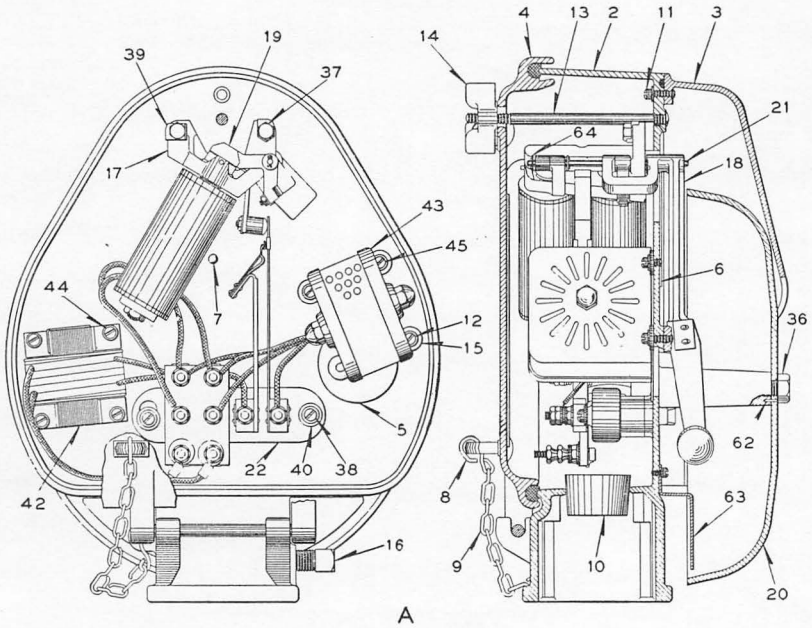
# Style "AH" A.C. Crossing Bell

**Use this Plate only for ordering detail parts of original design; see Plate K-91 for later design of A.C. Bell.**

**(Continued)**

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **136397** | **56** | **Hood Only** | C–8808–4 |
| | **57** | **Machine Screw,** No. 14-24x⅝" Fil. Hd. S. (C.N. 52324) (Cad. Pl.) with ¼" Plain S. Lock Washer (C.N. 47522) (Cad. Pl.) for attaching Hood Ref. 56 to Case | |
| **61403** | **58** | **Stud** | 8114–225 |
| | **59** | **No. 1 S. Hook** (C.N. 56179) (Cad. Pl.) | |
| | **60** | **No. 8, 6-Link Jack Chain** (C.N. 61109) (Cad. Pl.) | |
| **57497** | **61** | **Dowel Pin** | 8097–873 |
| **43654** | **62** | **Pin** | 8097–448 |
| **81267** | **63** | **Stud** | 8114–542 |
| **54929** | **64** | **Rivet** | B–10301–1 |
| | **65** | **Terminal Post** with Nuts and Washers | 12451– |
| **81266** | **65a** | **Terminal Post Only,** for Ref. 65 | 8098–612 |

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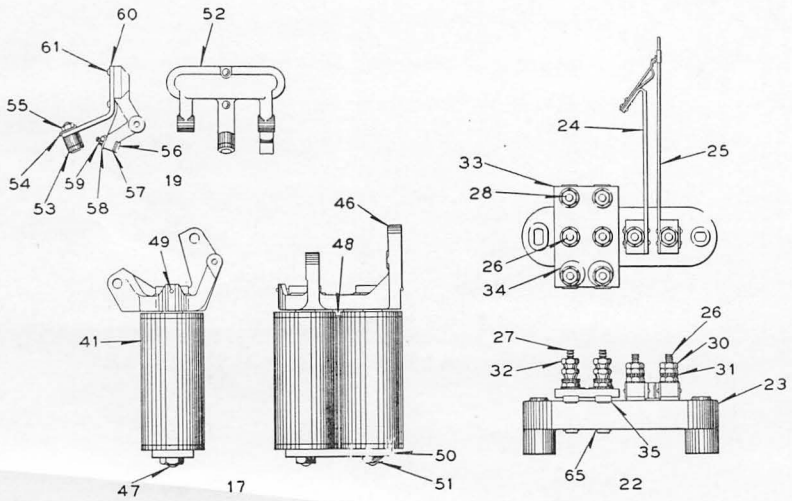



# Style "AH-10" A.C. Crossing Bell

# Style "AH-10" A.C. Crossing Bell

**The Style "AH-10" crossing bell for A.C. operation consists essentially of the D.C. bell shown on Pl. K-80 modified by the addition of a small transformer and copper oxide rectifier to permit of operation on alternating current. It is so designed that for 110/100 volt operation it may be used without change on power sources having a frequency of from 25 to 100 cycles. The bell can also be supplied for 220 volt 60/100 cycle operation. The Style "AH-10" bell operates at a rate of approximately 100 strokes per minute as compared with 160 strokes per minute obtained from the style "AH" bell shown on plate K-90. This reduced rate of operation gives a more distinctive tone and thus a better warning signal is obtained than is the case with bells operating at a higher speed.**

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **152837** | **A** | **Style "AH-10" A.C. Crossing Bell,** complete as shown, 110/100 volts, 25/100 cycles, with coils 10 ohms per pair. For direct mounting to 3″ Pipe | C–8913–3 |
| **208407** | **Aa** | **Style "AH-10" A.C. Crossing Bell,** 110/100 volts, 25/100 cycles, with coils 4 ohms per pair. For direct mounting to 3″ Pipe | C–8913–3 |
| **162910** | **Ab** | **Style "AH-10" A.C. Crossing Bell,** 220 volts, 60/100 cycles, with coils 10 ohms per pair. For direct mounting to 3″ Pipe | C–8913–3 |
| **152707** | **2** | **Case Only,** for Style "AH-10" Crossing Bell | C–8808–3 |
| **136397** | **3** | **Hood** | C–8808–4 |
| **74355** | **4** | **Cover** with Gasket Ref. 4a | C–8808–1 |
| | **4a** | **Jute Packing,** ⅜″x⅜″x3′ 7¼″ for Ref. 4 | |
| **61362** | **5** | **Shield** (Round) | C–8808–2 |
| **61363** | **6** | **Shield** | C–8808–2 |
| **54937** | **7** | **Rivet** for fastening Refs. 5 and 6 to Case | 10301–50 |
| | **8** | **No. 1 S. Hook** (C.N. 56179) (Cad. Pl.) | |
| | **9** | **No. 8, 6 Link Single Jack Chain** (C.N. 61109) (Cad. Pl.) | |
| **61928** | **10** | **Wire Guide** | C–7330–1 |
| | **11** | **Machine Screw,** No. 14-24x¾″ Fil. Hd. S. (C.N. 52325) (Tin Pl.) with ¼″ Plain S. Lock Washer (C.N. 47775) (Tin Pl.) for fastening Ref. 3 to 2. | |
| | **12** | **Machine Screw,** No. 14-24x⅞″ Fil. Hd. S. (C.N. 52326) (Tin Pl.) with ¼″ Plain S. Lock Washer (C.N. 47775) (Tin Pl.) | |

# Style "AH-10" A.C. Crossing Bell

(Continued)

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **61403** | **13** | **Stud** | 8114–225 |
| **111526** | **14** | **Wing Nut** | 8331–65 |
| **50682** | **15** | **Washer** | 7826–117 |
| | **16** | **Set Screw,** $\frac{5}{8}$"-11x1" Cup Point I. (C.N. 50598) (Cad. Pl.) | |
| **70234** | **17** | **Magnet Assembly** (10 Ohms per Pair) complete as shown | B–12438–33 |
| **97308** | **17a** | **Magnet Bracket** with Cores and Back Strap (Includes 1-46, 2-47, 1-48, 2-49, 1-50 and 2-51) (Without Coils) | B–12438–33 |
| **81067** | **17b** | **Magnet Assembly** (4 Ohms per Pair) complete as shown | B–12438–33 |
| **70198** | **18** | **Clapper Arm Complete** | C–8808–2 |
| **97406** | **19** | **Armature** with Bushing, Nuts, Stud and Operating Arm (Includes 1-52, 1-53, 1-54, 1-55, 1-56, 6-57, 1-58, 1-59, 1-60 and 2-61) | C–8808–2 |
| **63312** | **20** | **Gong** | B–8379–4 |
| **61700** | **21** | **Shaft** with two $\frac{1}{16}$"x$\frac{3}{8}$" S. Cotters (C.N. 48601) (Tin Pl.) | 8097–748 |
| **152699** | **22** | **Terminal Board** with Contact Springs | 9968–886 |
| **81427** | **23** | **Terminal Board Only** | 9968–381 |
| **153127** | **24** | **Contact Spring** | 8385–2173 |
| **153368** | **25** | **Contact Spring** | 8385–2172 |
| | **26** | **Terminal Post** with Nuts and Washers (Includes 1-26a, 3-30, 3-31 and 1-65) | 12451– |
| **113978** | **26a** | **Terminal Post Only,** for Ref. 26 | 8094–1192 |
| | **27** | **Terminal Post** with Nuts and Washers (Includes 1-27a, 1-30, 3-31, 2-32 and 1-35) | 12451– |
| **199852** | **27a** | **Terminal Post Only,** for Ref. 27 | 8094–2207 |
| | **28** | **Terminal Post** with Nuts and Washers (Includes 1-28a, 3-30, 3-31 and 1-35) | 12451– |

# Style "AH-10" A.C. Crossing Bell

**(Continued)**

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **122489** | **28a** | **Terminal Post Only,** for Ref. 28 | 8094–1192 |
| **29103** | **30** | **Nut** | 8109–194 |
| **29102** | **31** | **Washer** | 7828–139 |
| **29101** | **32** | **Nut** | 8109–193 |
| **152698** | **33** | **Terminal Board** | 9968–887 |
| **142777** | **34** | **Tag** (Lettered A.C.) | 8988–75 |
| **186420** | **35** | **Lock Washer** | 8486–362 |
| **40372** | **36** | **Screw** | C–7377–2 |
| | **37** | **Cap Screw,** $\frac{5}{16}$″-18x$\frac{7}{8}$″ Hex. Hd. S. (C.N. 50037) (Cad. Pl.) | |
| | **38** | **Machine Screw,** No. 14-24x2$\frac{1}{8}$″ Fil. Hd. S. (C.N. 52336) (Tin Pl.) with Std. $\frac{3}{16}$″ Plate Washer (C.N. 47500) (Tin Pl.) and Washer Ref. 40 for attaching Ref. 22 to Ref. 2. | |
| **21439** | **39** | **Lock Washer** | 8486–70 |
| **33263** | **40** | **Washer** (Leather) | 8078–422 |
| **74446** | **41** | **Coil,** Resistance 5 ohms | 8133–312 |
| **81071** | **41a** | **Coil,** Resistance 2 ohms | 8133–312 |
| **152621** | **42** | **Style "N2" Transformer,** 110/100 Volts, 25/100 Cycles | C–8605–17 |
| **162911** | **42a** | **Style "N2" Transformer,** 220 Volts, 60/100 Cycles | C–8605–17 |
| **152477** | **43** | **Style R-27 Rectifier,** Input 10 Volts, 25 to 100 Cycles A.C., Output 6 Volts 0.6 Amps. D.C. | C–9135–26 |
| | **44** | **Machine Screw,** No. 14-24x$\frac{3}{8}$″ Fil. Hd. S. (C.N. 52321) (Tin Pl.) with $\frac{1}{4}$″ Plain S. Lock Washer (C.N. 47775) (Tin Pl.) | |
| | **45** | **Machine Screw,** No. 10-30x$\frac{3}{8}$″ Fil. Hd. S. (C.N. 52277) (Tin Pl.) with No. 10 Plain S. Lock Washer (C.N. 47733) (Tin Pl.) | |
| **61376** | **46** | **Magnet Bracket Only,** for Ref. 17 | 8075–199 |

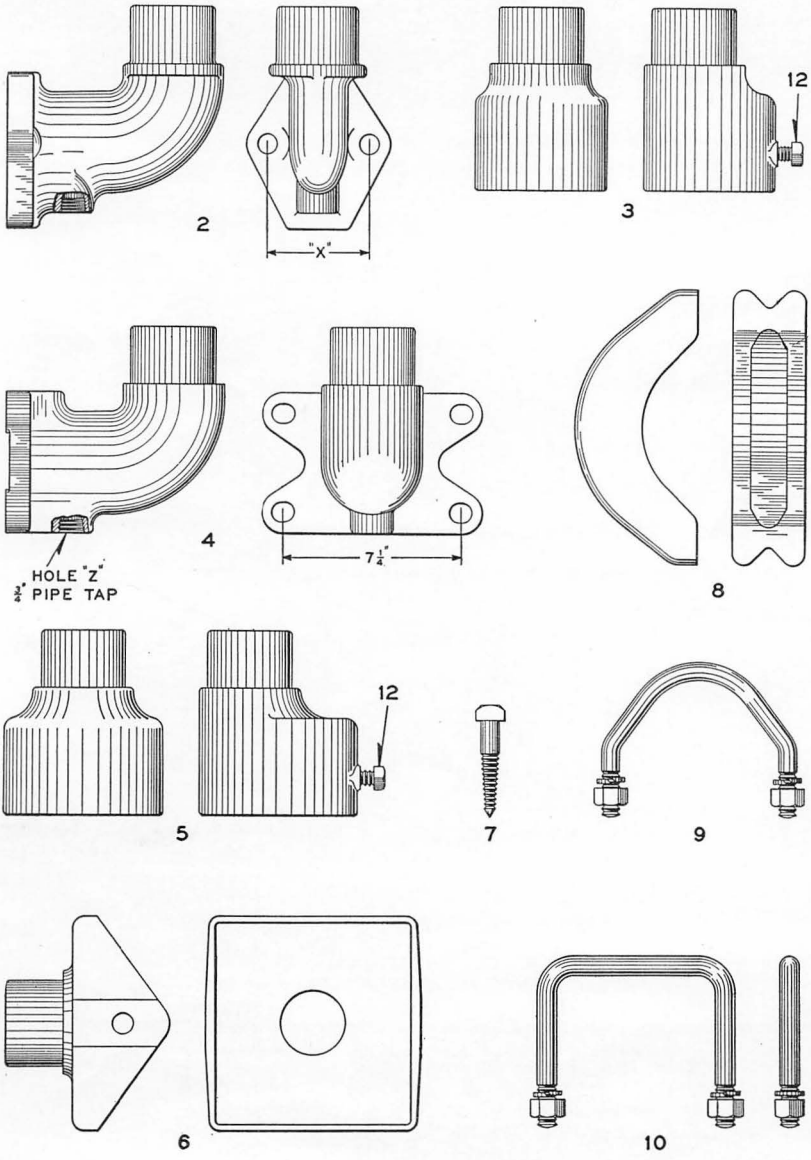
# Style "AH-10" A.C. Crossing Bell

(Continued)

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **61378** | **47** | **Core** for Ref. 17 | 8101–231 |
| **61375** | **48** | **Stud** | 8750–1769 |
| **37163** | **49** | **Pin** for Ref. 17 | 8097–279 |
| **61374** | **50** | **Back Strap** for Ref. 17 | 8162–174 |
| **51610** | **51** | **Nut** for Ref. 47 | 8265–161 |
| **61377** | **52** | **Armature Only,** for Ref. 19 | 8157–256 |
| **61373** | **53** | **Bushing** for Ref. 19 | 8095–527 |
| **79652** | **54** | **Nut Lock** for Ref. 53 | 8486–102 |
| **1515** | **55** | **Nut** for Ref. 53 | 8109–23 |
| **62306** | **56** | **Stud** | 8098–1200 |
| **62307** | **57** | **Washer** for Ref. 56 | 8486–197 |
| **62309** | **58** | **Nut Lock** for Ref. 59 | 8486–197 |
| **73494** | **59** | **Nut** for Ref. 56 | 8265–126 |
| **61360** | **60** | **Operating Arm** | C–8808–2 |
| | **61** | **Rivet,** ⅛″x½″ Rd. Hd. I. (C.N. 49409) (Cad. Pl.) for fastening Ref. 60 to Ref. 52 | |
| **43654** | **62** | **Pin** | 8097–448 |
| **180652** | **63** | **Shield** | 10914–489 |
| **53** | **64** | **Washer** | 7828–5 |
| **188259** | **65** | **Lock Washer** | 8486–310 |

UNION SWITCH & SIGNAL
DIVISION OF WESTINGHOUSE AIR BRAKE CO.




# Brackets and Sockets For Mounting Crossing Bells

# Highway Crossing Signals

## DETAIL PARTS

# Brackets and Sockets for Mounting Crossing Bells

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **123367** | **2** | **Bracket** for mounting Crossing Bell on 6″ square wood post (without pipe plug) ("X" dim. 4¼″)... | C–6041–13 |
| **157279** | **2b** | **Bracket** for mounting Crossing Bell on 6″ square wood post (with ¾″ pipe plug) ("X" dim. 4¼″).. | C–6041–13 |
| **188367** | **2c** | **Bracket** for mounting Crossing Bell on 4″ pipe post (without pipe plug) (Uses U-Bolts Ref. 11) ("X" dim. 5¼″)..... | C–6041–13 |
| **188373** | **2d** | **Bracket** for mounting Crossing Bell on 4″ pipe post (with ¾″ pipe plug) (Uses U-Bolts Ref. 11) ("X" dim. 5¼″)..... | C–6041–13 |
| **99235** | **3** | **Socket Complete** with Set Screw Ref. 12, for mounting Crossing Bell on top of 3½″ pipe post..... | C–6041–10 |
| **82254** | **3a** | **Socket Complete** with Set Screw Ref. 12, for mounting Crossing Bell on top of 4″ pipe post..... | C–6041–10 |
| **61931** | **4** | **Bracket** for mounting Crossing Bell on side of building or 3″, 4″, 5″ and 6″ pipe (Without hole "Z").. | C–6041–10 |
| **63294** | **4a** | **Bracket** for mounting Crossing Bell on the side of a 5″ square post by means of U-Bolts (Without hole "Z")..... | C–6041–10 |
| **65849** | **4b** | **Bracket** for mounting Crossing Bell on side of building or 3″, 4″, 5″ and 6″ pipe (With hole "Z")..... | C–6041–10 |
| **65850** | **4c** | **Bracket** for mounting Crossing Bell on the side of a 5″ square post by means of U-Bolts (With hole "Z"). | C–6041–10 |
| | **4d** | **Bracket** with Fillers and U-Bolts (Without hole "Z") for mounting on the side of a 3″ Pipe Post (Inc. 1-4, 2-8 and 2-9)..... | C–6041–10 |
| | **4e** | **Bracket** with Fillers and U-Bolts (With hole "Z") for mounting on the side of a 3″ Pipe Post (Inc. 1-4b, 2-8 and 2-9)..... | C–6041–10 |
| | **4f** | **Bracket** with U-Bolts (Without hole "Z") for mounting on the side of a 4″ Pipe Post (Inc. 1-4 and 2-9) | C–6041–10 |
| | **4g** | **Bracket** with U-Bolts (With hole "Z") for mounting on the side of a 4″ Pipe Post (Inc. 1-4b and 2-9)... | C–6041–10 |

# Highway Crossing Signals

## DETAIL PARTS

## Brackets and Sockets for Mounting Crossing Bells

**(Continued)**

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | **4h** | **Bracket** with U-Bolts (Without hole "Z") for mounting on the side of a 5″ Pipe Post (Inc. 1-4 and 2-9a) | C–6041–10 |
| | **4j** | **Bracket** with U-Bolts (Without hole "Z") for mounting on the side of a 5″ square post (Inc. 1-4a and 2-10) | C–6041–10 |
| | **4k** | **Bracket** with U-Bolts (With hole "Z") for mounting on the side of a 5″ Pipe Post (Inc. 1-4b and 2-9a) | C–6041–10 |
| | **4m** | **Bracket** with U-Bolts (With hole "Z") for mounting on the side of a 5″ square post (Inc. 1-4c and 2-10) | C–6041–10 |
| | **4n** | **Bracket** with U-Bolts (Without hole "Z") for mounting on the side of a 6″ Pipe Post (Inc. 1-4 and 2-9b) | C–6041–10 |
| | **4p** | **Bracket** with U-Bolts (With hole "Z") for mounting on the side of a 6″ Pipe Post (Inc. 1-4b and 2-9b) | C–6041–10 |
| **94058** | **5** | **Socket** with Set Screw Ref. 12 for mounting Crossing Bell on top of 5″ Pipe Post | C–6041–10 |
| **98872** | **5a** | **Socket** with Set Screw Ref. 12 for mounting Crossing Bell on top of 5″ Casing | C–6041–10 |
| **60668** | **6** | **Socket** for mounting Crossing Bell on top of an 8″ square wood post | C–6041–11 |
| | **6a** | **Socket** with two ¾″x4″ Lag Screws (Inc. 1-6 and 2-7) | C–6041–11 |
| | **7** | **Lag Screw,** ¾″x4″ for attaching brackets to wood posts | |
| **47106** | **8** | **Filler** for use with U-Bolts Ref. 9 for applying Brackets Refs. 4 and 4b to the side of a 3″ Pipe Post | C–8034–2 |
| **54865** | **9** | **U-Bolt,** ¾″ with two ¾″ Hex. Nuts (C.N. 48059) (Cad. Pl.) and two ¾″ Plain S. Lock Washers (C.N. 47543) (Cad. Pl.) for 3″ Pipe when used with Filler Ref. 8, or 4″ Pipe without Filler | 8782–102 |

# Highway Crossing Signals

## DETAIL PARTS

## Brackets And Sockets For Mounting Crossing Bells

(Continued)

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **43931** | **9a** | **U-Bolt,** ¾″ with two ¾″ Hex. Nuts (C.N. 48059) (Cad. Pl.) and two ¾″ Plain S. Lock Washers (C.N. 47543) (Cad. Pl.) for 5″ Pipe Post..... | 8782–66 |
| **44199** | **9b** | **U-Bolt,** ¾″, with two ¾″ Hex. Nuts (C.N. 48059) (Cad. Pl.) and two ¾″ Plain S. Lock Washers (C.N. 47543) (Cad. Pl.) for 6″ Pipe Post..... | 8782–69 |
| **63293** | **10** | **U-Bolt,** ¾″, with two ¾″ Hex. Nuts (C.N. 48059) (Cad. Pl.) and two ¾″ Plain S. Lock Washers (C.N. 47543) (Cad. Pl.) for attaching Bracket Refs. 4a and 4c to 5″ Square Post..... | 8782–122 |
| **39911** | **11** | **U-Bolt,** ¾″, with two ¾″ Hex. Nuts (C.N. 48059) (Cad. Pl.) and two ¾″ Plain S. Lock Washers (C.N. 47543) (Cad. Pl.) (Not shown)..... | 8782–62 |
| | **12** | **Set Screw,** ⅝″-11x1″ Sq. Hd. Cup Pt. Iron | |

## UNION SWITCH & SIGNAL CO.

## RAILROAD CROSSING SIGNS

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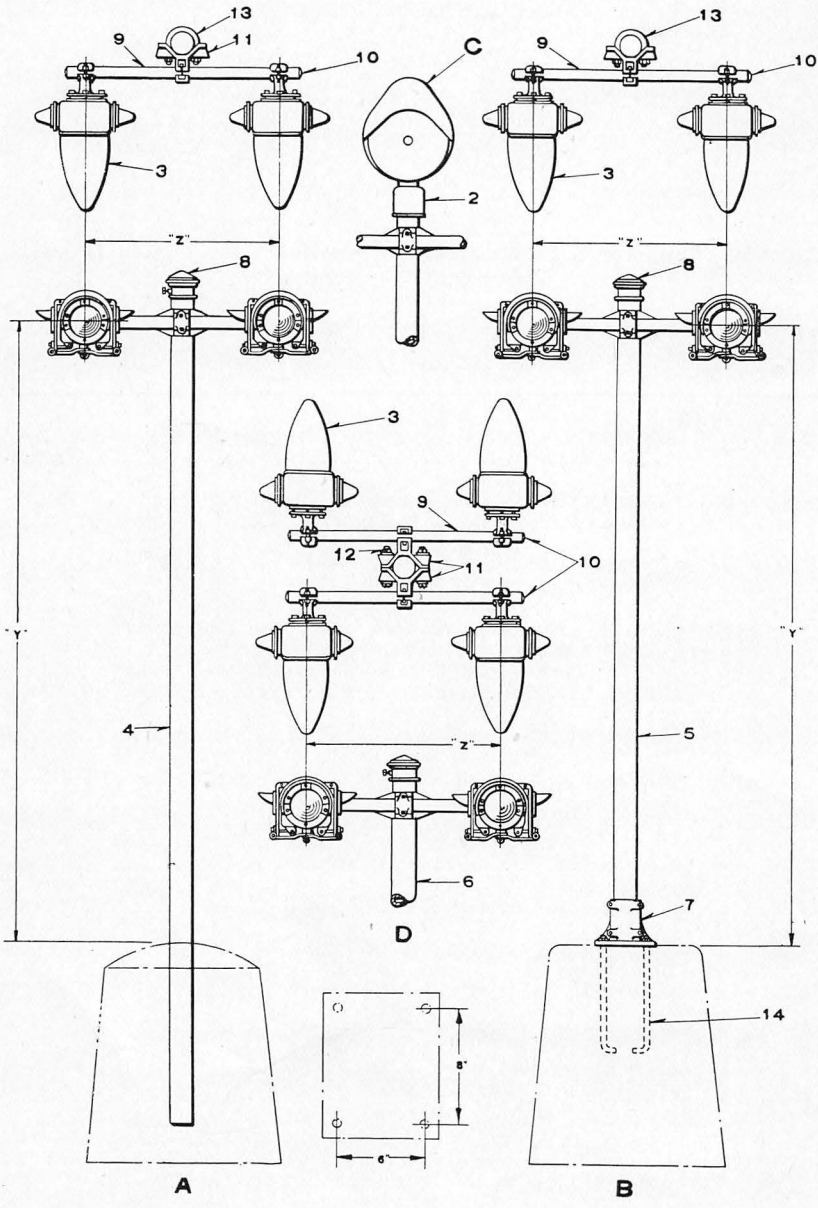
**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **71859** | **A** | **Circular Sign,** with Bolts and Nuts for fastening sign to 3″ Pipe Post | C–5844–1 |
| | **B** | **Crossing Sign,** with Clamps, Bolts and Nuts, for fastening sign to 3″ Pipe Post | C–5841–4 |
| | **Ba** | **Crossing Sign,** with Clamps, Bolts and Nuts, for fastening sign to 4″ Pipe Post | C–5844–4 |
| | **Bb** | **Crossing Sign,** with Clamps, Bolts and Nuts for fastening Sign to 5″ Pipe Post | C–5844–4 |
| | **C** | **Clamp,** with Bolts and Nuts for 3″ Pipe Post | B–10246–3 |
| | **Ca** | **Clamp,** with Bolts and Nuts for 4″ Pipe Post | B–8705–5 |
| | **Cb** | **Clamp,** with Bolts and Nuts for 5″ Pipe Post | B–8707–15 |
| **66137** | **2** | **Crossing Sign** (Half) only for Ref. A | C–5844–1 |
| **59315** | **3** | **Crossing Sign** (Half) only for Refs. B and Ba | C–5844–4 |
| **59478** | **4** | **Clamp** (Half) only for Ref. C for 3″ Pipe | B–10246–3 |
| **63444** | **4a** | **Clamp** (Half) only for Ref. Ca for 4″ Pipe | B–8705–5 |
| **113458** | **4b** | **Clamp** (Half) only for Ref. Cb for 5″ Pipe | B–8707–15 |
| | **5** | **Bolt,** ¾″x2¾″ Sq. Hd. with Hex. Nut for Ref. A. | |
| | **6** | **Bolt,** ⅝″x2¼″ Sq. Hd. with Hex. Nut for Refs. B and Ba. | |
| | **7** | **Bolt,** ⅝″x4¼″ Sq. Hd. with Hex. Nut for Ref. C. | |
| | **7a** | **Bolt,** ⅝″x5¼″ Sq. Hd. with Hex. Nut for Ref. Ca. | |
| | **7b** | **Bolt,** ⅝″x5¾″ Sq. Hd. with Hex. Nut for Ref. Cb. | |

PLATE K-101

UNION SWITCH & SIGNAL CO.




STYLE "HC-1"—COLOR LIGHT HIGHWAY CROSSING SIGNALS WITH 5⅜" LENS AND MOUNTING DETAILS

UNION SWITCH & SIGNAL CO.

# STYLE "HC-1"—COLOR LIGHT HIGHWAY CROSSING SIGNALS WITH 5⅜" LENS AND MOUNTING DETAILS

For Other Details See Plate K-103

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **122326** | **A** | **Color Light Highway Crossing Signal,** 5⅜" diam. lens, with 3" pipe post, as shown, "Y" dimension 8′ 0" and "Z" dimension 2′ 6" (For mounting in concrete) | B–8912–10 |
| | **Aa** | **Color Light Highway Crossing Signal,** 5⅜" diam. lens with 4" pipe post, complete, "Y" dimension 8′ 0" and "Z" dimension 2′ 6" (For mounting in concrete) | B–8912–10 |
| **121438** | **Ab** | **Color Light Highway Crossing Signal,** 5⅜" diam. lens, complete with fittings for attaching to 3" pipe post (No Post) "Z" dimension 2′ 6" | B–8912–10 |
| **122159** | **Ac** | **Color Light Highway Crossing Signal,** 5⅜" diam. lens, complete with fittings for attaching to 4" pipe post (No Post) "Z" dimension 2′ 6" | B–8912–10 |
| | **B** | **Color Light Highway Crossing Signal,** 5⅜" diam. lens, with 3" pipe post, and clamp base, complete, as shown, "Y" dimension 8′ 0" and "Z" dimensiln 2′ 6" | B–8912–10 |
| **124445** | **Ba** | **Color Light Highway Crossing Signal,** 5⅜" diam. lens, with 3" pipe post and clamp base, complete "Y" dimension 8′ 0" and "Z" dimension 4′ 0" | B–8912–10 |
| | **Bb** | **Color Light Highway Crossing Signal,** 5⅜" diam. lens, with 4" pipe post and clamp base, complete "Y" dimension 8′ 0" and "Z" dimension 2′ 6" | B–8912–10 |
| | **C** | **Model 15-A D.C. Crossing Bell,** for mounting direct on 3" pipe (when ordering mention voltage available for operation) For details refer to Plate K-80. | C–8807–1 |
| **152837** | **Ca** | **Style "AH-10" A.C. Crossing Bell,** for mounting direct on 3" pipe 110 volts, 25 to 100 cycles (For Details refer to Plate K-91) | C–8913–3 |

UNION SWITCH & SIGNAL CO.

## STYLE "HC-1"—COLOR LIGHT HIGHWAY CROSSING SIGNALS WITH 5⅜" LENS AND MOUNTING DETAILS (Continued)

For Other Details See Plate K-103

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | **D** | **Color Light Two Direction Highway Crossing Signal,** 5⅜" diam. lens, with 3" pipe post, for mounting in concrete per Ref. A ("Y" dimension 8′ 0" and "Z" dimension 2′ 6") | B–8912–11 |
| 124452 | **Da** | **Color Light Two Direction Highway Crossing Signal,** 5⅜" diam. lens, with 3" pipe post and clamp base, per Ref. B ("Y" dimension 8′ 0" and "Z" dimension 4′ 0") | B–8912–11 |
| | **Db** | **Color Light Two Direction Highway Crossing Signal,** 5⅜" diam. lens, complete with fittings for attaching to 3" pipe post (no post) ("Z" dimension 2′ 6") | B–8912–11 |
| | **Dc** | **Color Light Two Direction Highway Crossing Signal,** 5⅜" diam. lens, complete with fittings for attaching to 3" pipe post (no post) ("Z" dimension 4′ 0") | B–8912–11 |
| | **Dd** | **Color Light Two Direction Highway Crossing Signal,** 5⅜" diam. lens, complete with fittings for attaching to 4" pipe post (no post) ("Z" dimension 2′ 6") | B–8912–11 |
| 99235 | 2 | **Adapter** for mounting Crossing Bell on 3½" pipe | C–6041–10 |
| 82254 | 2a | **Adapter** for mounting Crossing Bell on 4" pipe | C–6041–10 |
| 98872 | 2b | **Adapter** for mounting Crossing Bell on 5" casing | C–6041–10 |
| 94058 | 2c | **Adapter** for mounting Crossing Bell on 5" pipe | C–6041–10 |
| 121389 | 3 | **Lamp Unit,** 5⅜" Lens for Color Light Highway Crossing Signal, complete (no post). For details refer to Plate K-103 | C–8965–9 |
| 122325 | 4 | **3" Pipe Post 10′ 10" long** as shown for Ref. A | B–9893–91 |
| 122866 | 4a | **4" Pipe Post 10′ 10" long** for Ref. Aa | B–9893–93 |
| 124447 | 5 | **3" Pipe Post, 8′ 6¾" long,** with clamp base for Refs. B and Ba | B–9893–94 |

UNION SWITCH & SIGNAL CO.

## STYLE "HC-1"—COLOR LIGHT HIGHWAY CROSSING SIGNALS WITH 5⅜" LENS AND MOUNTING DETAILS (Continued)

For Other Details See Plate K-103

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | **5a** | **3" Pipe Post 8' 6" long** only for Ref. 5 | B–9893–94 |
| | **5b** | **4" Pipe Post 8' 6¾" long** with clamp base for Ref. Bb | B–9893 |
| | **5c** | **4" Pipe Post 8' 6" long** only for Ref. 5b | B–9893 |
| | **6** | **3" Pipe Post 10' 10" long** for Ref. D | B–9893 |
| **124455** | **6a** | **3" Pipe Post 8' 6¾" long** with clamp base for Ref. Da | B–9893–94 |
| | **6b** | **3" Pipe Post 8' 6" long** for Ref. 6a | B–9893–94 |
| **70780** | **7** | **Clamp Base** for 3" Pipe Post | C–6634–1 |
| | **7a** | **Clamp Base** for 4" Pipe Post | C–6634–2 |
| **70957** | **8** | **Pinnacle** for 3" Pipe Post | B–8121–14 |
| **93408** | **8a** | **Pinnacle** for 4" Pipe Post | B–8121–16 |
| **121404** | **9** | **Lamp Supporting Arm,** 1¼" pipe with plugs "Z" dimension 2' 6" for Refs. A, Aa, Ab, Ac, B, Bb, D, Db and Dd | B–12477–2 |
| **121400** | **9a** | **Lamp Supporting Arm,** only for Ref. 9 | B–12477–2 |
| **124434** | **9b** | **Lamp Supporting Arm,** 1¼" pipe with plugs, complete "Z" dimension 4' 0" for Refs. Ba and Da | B–12477–2 |
| **124433** | **9c** | **Lamp Supporting Arm,** only for Ref. 9b | B–12477–2 |
| **94355** | **10** | **Plug** for Refs. 9 and 9b | C–8964–3 |
| **121451** | **11** | **Adapter Clamp** for 3" and 4" pipe post and 7"x7" square wood post, with cap for 1¼" pipe, as shown | C–8964–20 |
| **121412** | **11a** | **Adapter Clamp** only for Ref. 11 | C–8964–20 |

UNION SWITCH & SIGNAL CO.

## STYLE "HC-1"—COLOR LIGHT HIGHWAY CROSSING SIGNALS WITH 5⅜" LENS AND MOUNTING DETAILS (Continued)

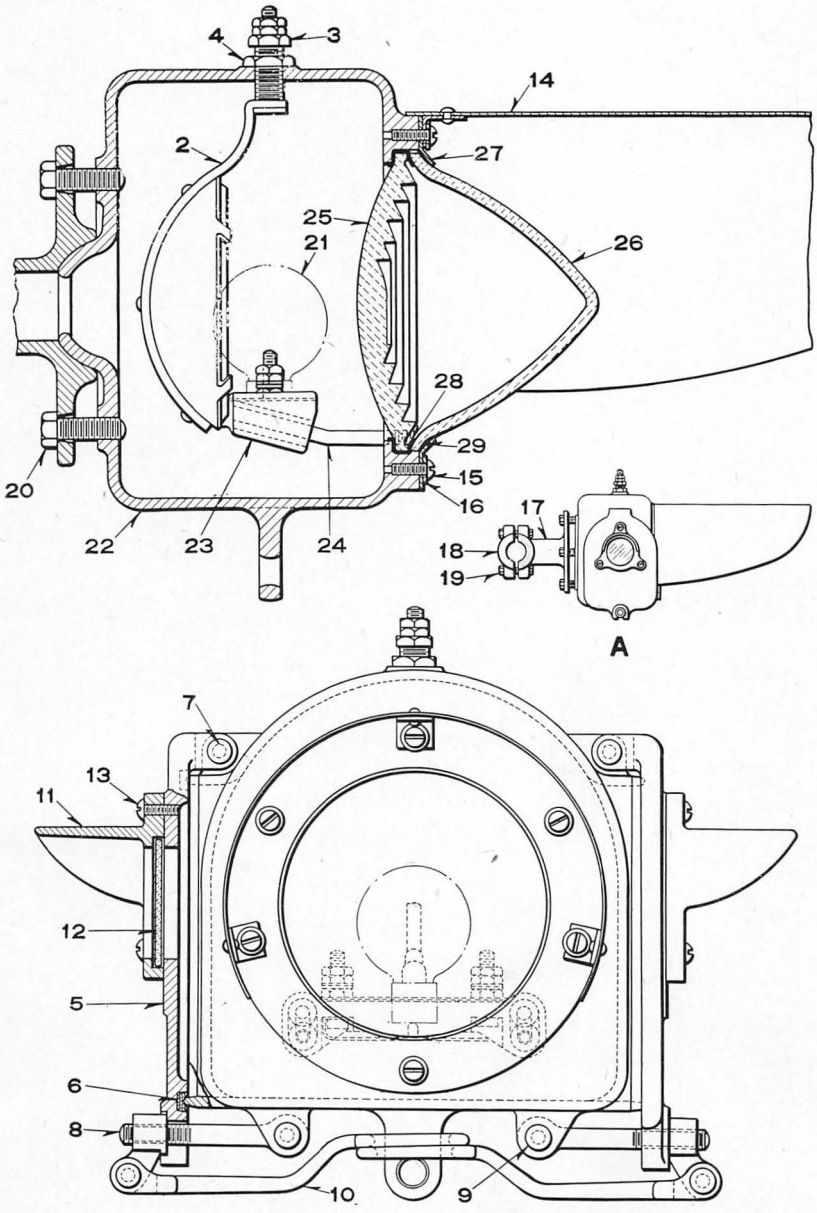
**For Other Details See Plate K-103**

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **121413** | **11b** | **Cap** for 1¼" pipe for Ref. 11 | C–8964–20 |
| | **11c** | **Bolt,** ½"x2¾" Sq. Hd. for securing Ref. 11b to Ref. 11a. | |
| | **11d** | **Nut,** ½" Hex. for Refs. 11c, 12, 13, 13a and 13b. | |
| | **11e** | **Lock Washer,** ½" plain ($\frac{3}{16}$"x$\frac{3}{32}$") for Ref. 11c. | |
| | **12** | **Bolt,** ½"x5¾" Sq. Hd. with Hex. Nut and two plate Washers for 3" pipe. | |
| | **12a** | **Washer,** ½" Std. Plate for Refs. 12, 13, 13a and 13b. | |
| **46565** | **13** | **"U" Bolt,** ½" for 3" Pipe Post with Hex. Nuts and Plate Washers | 8782–75 |
| **60115** | **13a** | **"U" Bolt,** ½" for 4" Pipe Post with Hex. Nuts and Plate Washers | 8782–108 |
| **123441** | **13b** | **"U" Bolt,** ½" for securing Ref. 11 to a 7"x7" square wood post with Hex. Nuts and Plate Washers | 8782–166 |
| **10478** | **14** | **Bolt,** ¾"x18" Foundation with Hex. Nut and Plate Washer | 7913–44 |
| | **14a** | **Nut,** ¾" Hex. for Ref. 14. | |
| | **14b** | **Washer,** ¾" Std. Plate for Ref. 14. | |

PLATE K-103

UNION SWITCH & SIGNAL CO.




LAMP UNIT 5 3/8" LENS FOR STYLE "HC-1" COLOR LIGHT HIGHWAY CROSSING SIGNAL

UNION SWITCH & SIGNAL CO.

# LAMP UNIT 5⅜" LENS FOR STYLE "HC-1" COLOR LIGHT HIGHWAY CROSSING SIGNAL

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **121389** | **A** | **Lamp Unit** for Style "HC-1" Color Light Highway Crossing Signal, Plate K-101, as shown (no bulb) | C–8965–9 |
| **111954** | **2** | **Reflector,** with support | C–8964–12 |
| **83247** | **2a** | **Reflector** only for Ref. 2 | C–8688–2 |
| **111930** | **3** | **Adjusting Nut** for Ref. 2 | 8109–404 |
| **111931** | **4** | **Lock Nut** for Ref. 2 | 8109–106 |
| | **5** | **Door** with gasket Ref. 6 | C–8964–10 |
| **59497** | **6** | **Gasket** for Ref. 5 | 8078–717 |
| | **7** | **Rivet,** ¼"x1¾" Rd. Hd. I. for Ref. 5. | |
| **111978** | **8** | **Eye Bolt** | 8034–102 |
| | **9** | **Rivet,** ¼"x1⅜" Rd. Hd. I. for Ref. 8. | |
| **112120** | **10** | **Hasp** | 8299–86 |
| **111881** | **11** | **Combined Hood and Lens Ring** | C–8964–4 |
| **125931** | **12** | **Clear Lens** | 8163–222 |
| | **13** | **Screw No. 10-30x⅝"** Rd. Hd. Steel Machine, Cadmium Plated, for Ref. 11. | |
| **95825** | **14** | **Hood** | C–8964–5 |
| | **15** | **Screw No. 10-30x½"** Rd. Hd. Steel Machine, Cadmium Plated, for Ref. 14. | |
| **38710** | **16** | **Washer** for Ref. 15 | 7826–98 |
| **94334** | **17** | **Support** for Ref. A | C–8964–3 |

UNION SWITCH & SIGNAL CO.

## LAMP UNIT 5⅜″ LENS FOR STYLE "HC-1" COLOR LIGHT HIGHWAY CROSSING SIGNAL (Continued)

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **94336** | **18** | **Cap** for Ref. 17 | C–8964–3 |
| | **19** | **Bolt, ⅜″x2½″** Sq. Hd. for securing Ref. 18 to Ref. 17 | |
| | **19a** | **Nut, ⅜″** Hex. for Ref. 19. | |
| | **19b** | **Lock Washer, ⅜″** Plain (5/32″x3/32″) for Ref. 19. | |
| | **20** | **Tap Bolt, ⅜″x1¼″** Hex. Hd. for Ref. 17. | |
| **113698** | **21** | **Electric Lamp, (12 Volts, 7.5 Watts)** | B–12409–14 |
| | | Material listed below when ordered separately requires specially designed aligning equipment and trained workmen to secure correct assembly. | |
| | **22** | **Lamp Unit Case,** with Lamp Base Doors, Eye Bolts and Rivets | C–8964–9 |
| **111849** | **22a** | **Lamp Unit Case,** only for Ref. 22 | C–8964–9 |
| **123630** | **23** | **Lamp Base** | 12415–6 |
| **123636** | **24** | **Stud** for securing Ref. 23 to Ref. 22 | 8114–609 |
| **92896** | **25** | **Lens (5⅜″ Diam. Clear)** | B–8276–29 |
| **111942** | **26** | **Red conical cover Glass** | 8468–31 |
| **95839** | **27** | **Lens Ring** | 7436–120 |
| | **28** | **Piece ¾″ Okonite Rubber Tape, 15½″ long,** used between Refs. 25 and 26. | |
| **40822** | **29** | **Gasket** used between Refs. 26 and 27 | 8078–684 |

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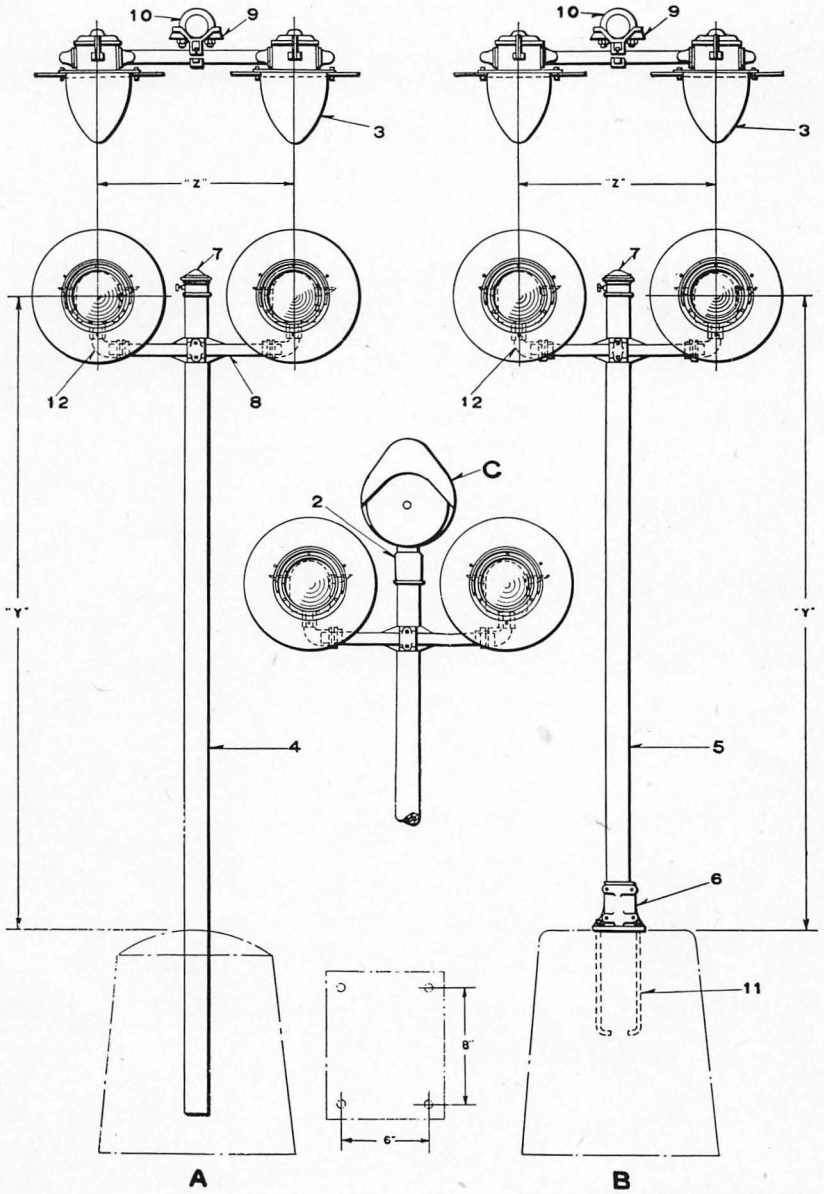



STYLE "HC-2"—COLOR LIGHT HIGHWAY CROSSING SIGNALS WITH 8 3/8" LENS AND MOUNTING DETAILS

UNION SWITCH & SIGNAL CO.

## STYLE "HC-2"—COLOR LIGHT HIGHWAY CROSSING SIGNALS WITH 8⅜" LENS AND MOUNTING DETAILS

For Other Details See Plate K-107

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | **A*** | **Color Light Highway Crossing Signal,** 8⅜" diam. lens, with 3" pipe post, as shown "Y" dimension 8′ 0" and "Z" dimension 2′ 6" (For mounting in concrete) | B–8912–12 |
| | **Aa*** | **Color Light Highway Crossing Signal,** 8⅜" diam. lens, with 4" pipe post, "Y" dimension 8′ 0" and "Z" dimension 2′ 6" (For mounting in concrete) | B–8912–12 |
| | **Ab*** | **Color Light Highway Crossing Signal,** 8⅜" diam. lens, with fittings for attaching to 3" pipe post (No Post) "Z" dimension 2′ 6" | B–8912–12 |
| | **Ac*** | **Color Light Highway Crossing Signal,** 8⅜" diam. lens, with fittings for attaching to 4" pipe post (No Post) "Z" dimension 2′ 6" | B–8912–12 |
| **125128** | **B*** | **Color Light Highway Crossing Signal,** 8⅜" diam. lens, with 3" pipe post and clamp base, as shown, "Y" dimension 8′ 0" and "Z" dimension 2′ 6" | B–8912–12 |
| **126060** | **Ba*** | **Color Light Highway Crossing Signal,** 8⅜" diam. lens, with 4" pipe post and clamp base, "Y" dimension 8′ 0" and "Z" dimension 2′ 6" | B–8912–12 |
| | * | Note:—Unless otherwise specified all lamp units will be furnished with backgrounds 20" in diam. | |
| | C | **Model "15-A" D.C. Crossing Bell,** for mounting direct on 3" pipe (when ordering mention voltage available for operation) (For details refer to Plate K-80) | C–8807–1 |
| **152837** | **Ca** | **Style "AH-10" A.C. Crossing Bell,** for mounting direct on 3" pipe, 110 volts, 25 to 100 cycles (For details refer to Plate K-91) | C–8913–1 |
| **99235** | **2** | **Adapter** for mounting crossing bell on 3½" pipe | C–6041–10 |

UNION SWITCH & SIGNAL CO.

## STYLE "HC-2"—COLOR LIGHT HIGHWAY CROSSING SIGNALS WITH 8⅜" LENS AND MOUNTING DETAILS (Continued)

For Other Details See Plate K-107

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **82254** | **2a** | **Adapter** for mounting crossing bell on 4" pipe | C–6041–10 |
| **98872** | **2b** | **Adapter** for mounting crossing bell on 5" casing | C–6041–10 |
| **94058** | **2c** | **Adapter** for mounting crossing bell on 5" pipe | C–6041–10 |
| **124372** | **3** | **Lamp Unit,** 8⅜" lens for Color Light Highway Crossing Signal, with background (No Post) for details refer to Plate K-107 (without Bulb) | C–8965–17 |
| | **3a** | **Lamp Unit,** 8⅜" lens for Color Light Highway Crossing Signal, (without background, bulb and post) for details refer to Plate K-107 | C–8965–17 |
| | **4** | **3" Pipe Post 10′ 5½" long,** for Ref. A | B–9893 |
| | **4a** | **4" Pipe Post 10′ 5½" long,** for Ref. Aa | B–9893 |
| **125129** | **5** | **3" Pipe Post 8′ 2¼" long,** with Clamp Base, complete for Ref. B | B–9893–94 |
| | **5a** | **3" Pipe Post 8′ 1½" long,** only for Ref. 5 | B–9893–94 |
| | **5b** | **4" Pipe Post 8′ 2¼" long,** with Clamp Base, complete for Ref. Ba | B–9893 |
| | **5c** | **4" Pipe Post 8′ 1½" long,** only for Ref. 5b | B–9893 |
| **70780** | **6** | **Clamp Base** for 3" pipe | C–6634–1 |
| | **6a** | **Clamp Base** for 4" pipe | C–6634–2 |
| **70957** | **7** | **Pinnacle** for 3" pipe post | B–8121–14 |
| **93408** | **7a** | **Pinnacle** for 4" pipe post | B–8121–16 |
| **125143** | **8** | **Lamp Supporting Arm,** 1¼" pipe | B–12477–2 |
| **121451** | **9** | **Adapter Clamp** for 3" and 4" pipe post and 7"x7" square wood post with cap for 1¼" pipe | C–8964–20 |

UNION SWITCH & SIGNAL CO.

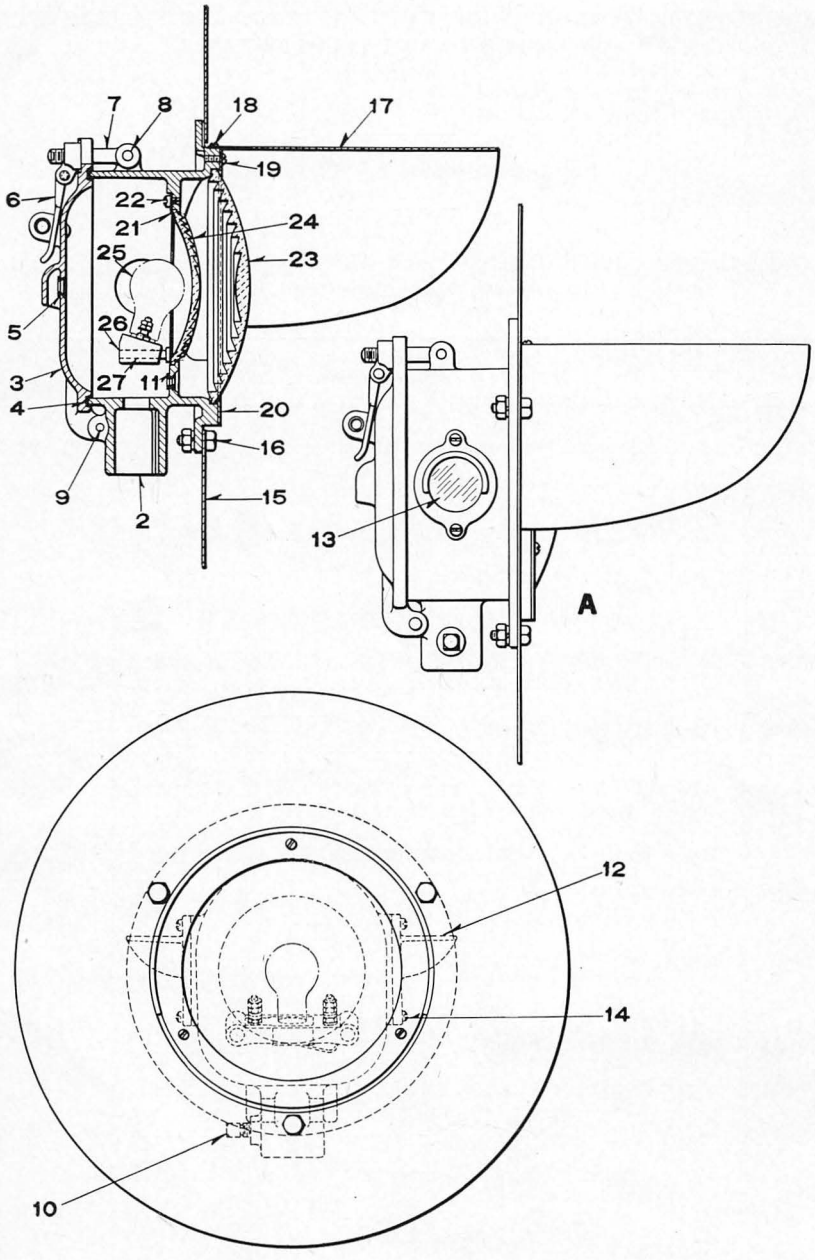
## STYLE "HC-2"—COLOR LIGHT HIGHWAY CROSSING SIGNALS WITH 8⅜" LENS AND MOUNTING DETAILS (Continued)

For Other Details See Plate K-107

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **121412** | **9a** | **Adapter Clamp** only for Ref. 9 | C–8964–20 |
| **121413** | **9b** | **Cap** for 1¼" pipe for Ref. 9 | C–8964–20 |
| | **9c** | **Bolt,** ½"x2¾" Sq. Hd. for securing Ref. 9b to Ref. 9a | |
| | **9d** | **Nut,** ½" Hex. for Ref. 9c. | |
| | **9e** | **Lock Washer,** ½" plain ($\frac{3}{16}$"x$\frac{3}{32}$") for Ref. 9c. | |
| **46565** | **10** | **"U" Bolt,** ½" for 3" Pipe Post with Hex. Nuts and Plate Washers | 8782–75 |
| **60115** | **10a** | **"U" Bolt,** ½" for 4" Pipe Post with Hex. Nuts and Plate Washers | 8782–108 |
| **123441** | **10b** | **"U" Bolt,** ½" for securing Ref. 9 to a 7"x7" square wood post with Hex. Nuts and Plate Washers | 8782–166 |
| | **10c** | **Washer,** ½" Std. Plate for Refs. 10, 10a and 10b. | |
| **10478** | **11** | **Bolt,** ¾"x18" Foundation with Hex. Nut and Plate Washer | 7913–44 |
| | **11a** | **Nut,** ¾" Hex. for Ref. 11. | |
| | **11b** | **Washer,** ¾" Std. Plate for Ref. 11. | |
| **125184** | **12** | **Bracket** and cap | C–6041–14 |
| **124384** | **12a** | **Bracket** only | C–6041–14 |
| **94336** | **12b** | **Cap** only for Ref. 12a | C–8964–3 |
| | **12c** | **Bolt,** ⅜"x2½" Sq. Hd. for securing Ref. 12b to Ref. 12a. | |
| | **12d** | **Nut,** ⅜" Hex. for Ref. 12c. | |
| | **12e** | **Lock Washer,** ⅜" Plain ($\frac{5}{32}$"x$\frac{3}{32}$") for Ref. 12c. | |

UNION SWITCH & SIGNAL CO.




LAMP UNIT 8 3/8" LENS FOR STYLE "HC-2" COLOR LIGHT HIGHWAY CROSSING SIGNAL

UNION SWITCH & SIGNAL CO.

# LAMP UNIT 8 3/8" LENS FOR STYLE "HC-2" COLOR LIGHT HIGHWAY CROSSING SIGNAL

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **124372** | **A** | **Lamp Unit,** 8 3/8" diam. lens for style "HC-2" Color Light Highway Crossing Signal, Plate K-105, as shown with background (no bulb) | C–8965–18 |
| | **Aa** | **Lamp Unit,** 8 3/8" diam. lens for style "HC-2" Color Light Highway Crossing Signal, Plate K-105, (without background and bulb) | C–8965–18 |
| | **2** | **Case, Door and Lamp Base** for Refs. A and Aa | C–8965–17 |
| | **3** | **Door** with eye, ventilator and gasket | C–8964–22 |
| **124383** | **4** | **Gasket** for Ref. 3 | 8078–717 |
| **34340** | **5** | **Ventilator,** for Ref. 3 | C–7459–6 |
| **72832** | **6** | **Hasp** | 8299–66 |
| **89918** | **7** | **Eye Bolt** | 8034–64 |
| **37075** | **8** | **Pin, 3/8"x1 7/8"** for Ref. 7 | B–10207–1 |
| **124391** | **9** | **Pin, 5/16"x3 1/2"** for Ref. 3 | B–10206–1 |
| | **10** | **Set Screw, 1/2"x1"** Cup Point. | |
| **84244** | **11** | **Ventilator** for case | 7318–64 |
| **124375** | **12** | **Hood** for Lens | C–8964–22 |
| **125931** | **13** | **Frosted Glass Shield** for Sidelight | 8163–222 |
| | **14** | **Screw No. 10-30x5/8"** Fil. Hd. S. Machine for securing Ref. 12 to case. | |
| **124376** | **15** | **Background** | C–8964–23 |
| | **16** | **Bolt, 3/8"x1"** Hex. Hd. with hex. nut and plain lock washer for attaching Ref. 15 to case. | |

UNION SWITCH & SIGNAL CO.

## LAMP UNIT 8 3/8" LENS FOR STYLE "HC-2" COLOR LIGHT HIGHWAY CROSSING SIGNAL (Continued)

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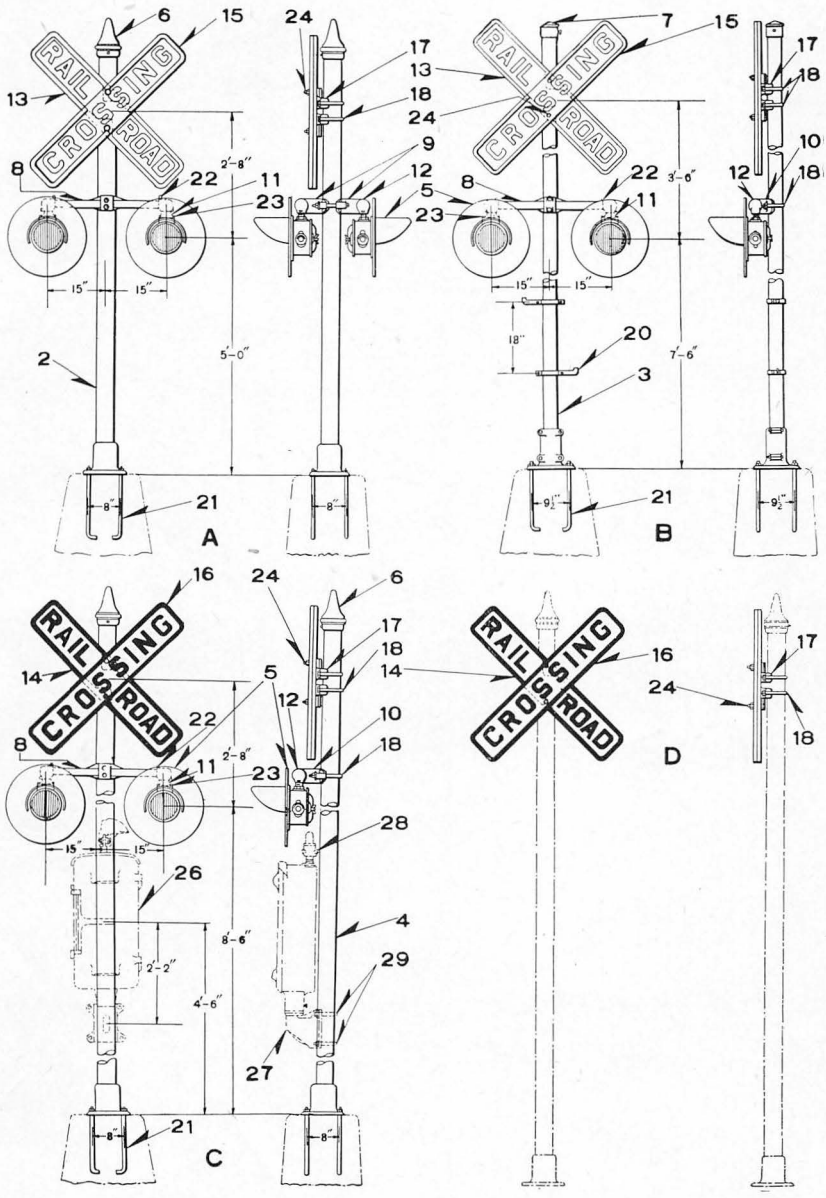
**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **65898** | **17** | **Hood** | C–8842–15 |
| | **18** | **Screw No. 10-30x1/4"** Rd. Hd. S. Machine, Cadmium plated, for Ref. 17. | |
| | **19** | **Screw No. 10-30x3/8"** Rd. Hd. S. Machine, Cadmium plated, for Ref. 20. | |
| **71187** | **20** | **Lens Ring** | 7436–106 |
| **124382** | **21** | **Clip** | 11893–206 |
| | **22** | **Screw No. 10-30x1/4"** Fil. Hd. S. Machine, Cadmium plated, for Ref. 21. | |
| **125818** | **23** | **Clear Lens** (8 3/8" diam.) | B–8276–31 |
| **71329** | **24** | **Red Lens** | B–8276–23 |
| **126730** | **25** | **Electric Lamp (8 Volts, 10 Watts)** | B–12409–16 |
| **126729** | **25a** | **Electric Lamp (10 Volts, 18 Watts)** | B–12409–16 |
| | | Material listed below when ordered separately requires specially designed aligning equipment and trained workmen to secure correct assembly. | |
| **123630** | **26** | **Lamp Base** | 12415–6 |
| **116518** | **27** | **Stud** for securing Ref. 26 to Ref. 2 | 8114–594 |

PLATE K-108

UNION SWITCH & SIGNAL CO.




STYLE "HC-3," "HC-31" AND "HC-32" TWO AND FOUR-UNIT COLOR LIGHT HIGHWAY CROSSING SIGNALS 8⅜" LENS AND CROSSING SIGNS

UNION SWITCH & SIGNAL CO.

## STYLE "HC-3," "HC-31" AND "HC-32" TWO AND FOUR-UNIT COLOR LIGHT HIGHWAY CROSSING SIGNALS 8⅜" LENS AND CROSSING SIGNS

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **138495** | **A** | **Four-Unit Color Light Style "HC-3" Highway Crossing Signal** (Units as shown on Plate K-111) mounted on 4" Pipe Post with Crossing Sign, Refs. 13 and 15, press fit Base and Pinnacle..... | B–8912–31 |
| | **Aa** | **Four-Unit Color Light Style "HC-31" Highway Crossing Signal** (Units as shown on Plate K-112) mounted on 4" Pipe Post with Crossing Sign, Refs. 13 and 15, press fit Base and Pinnacle..... | B–8912–31 |
| | **Ab** | **Four-Unit Color Light Style "HC-32" Highway Crossing Signal** (Units as shown on Plate K-113) mounted on 4" Pipe Post with Crossing Sign, Refs. 13 and 15, press fit Base and Pinnacle..... | B–8912–31 |
| **137429** | **B** | **Two-Unit Color Light Style "HC-3" Highway Crossing Signal** (Units as shown on Plate K-111) mounted on 3" Pipe Post with Crossing Sign, Refs. 13 and 15, Clamp Base, Pinnacle and three Steps.. | B–8912–29 |
| | **Ba** | **Two-Unit Color Light Style "HC-31" Highway Crossing Signal** (Units as shown on Plate K-112) mounted on 3" Pipe Post with Crossing Sign Refs. 13 and 15, Clamp Base, Pinnacle and three Steps.. | B–8912–29 |
| | **Bb** | **Two-Unit Color Light Style "HC-32" Highway Crossing Signal** (Units as shown on Plate K-113) mounted on 3" Pipe Post with Crossing Sign, Refs. 13 and 15, Clamp Base, Pinnacle and three Steps.. | B–8912–29 |
| **136836** | **C** | **Two-Unit Color Light Style "HC-3" Highway Crossing Signal** (Units as shown on Plate K-111) mounted on 4" Pipe Post, with press fit Base, Crossing Sign Refs. 14 and 16, and Pinnacle (without Relay Box)..... | B–8912–27 |

UNION SWITCH & SIGNAL CO.

## STYLE "HC-3," "HC-31" AND "HC-32" TWO AND FOUR-UNIT COLOR LIGHT HIGHWAY CROSSING SIGNALS 8⅜" LENS AND CROSSING SIGNS (Continued)

---

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **136837** | **Ca** | **Two-Unit Color Light Style "HC-3" Highway Crossing Signal** (Units as shown on Plate K-111) mounted on 4" Pipe Post with press fit base, Crossing Sign, Refs. 14 and 16, Relay Box, Ref. Aa, Plate L-1045 and Pinnacle | B–8912–27 |
| | **Cb** | **Two-Unit Color Light Style "HC-31" Highway Crossing Signal** (Units as shown on Plate K-112) mounted on 4" Pipe Post, with press fit base, Crossing Sign, Refs. 14 and 16 and Pinnacle (without Relay Box) | B–8912–27 |
| | **Cc** | **Two-Unit Color Light Style "HC-31" Highway Crossing Signal** (Units as shown on Plate K-112) mounted on 4" Pipe Post, with press fit base, Crossing Sign, Refs. 14 and 16, Relay Box, Ref. Aa, Plate L-1045 and Pinnacle | B–8912–27 |
| | **Cd** | **Two-Unit Color Light Style "HC-32" Highway Crossing Signal** (Units as shown on Plate K-113) mounted on 4" Pipe Post, with press fit base, Crossing Sign, Refs. 14 and 16, and Pinnacle (without Relay Box) | B–8912–27 |
| | **Ce** | **Two-Unit Color Light Style "HC-32" Highway Crossing Signal** (Units as shown on Plate K-113) mounted on 4" Pipe Post, with press fit base, Crossing Sign, Refs. 14 and 16, Relay Box Ref. Aa, Plate L-1045 and Pinnacle | B–8912–27 |
| | **D** | **Highway Crossing Sign,** Refs. 14 and 16, with Adapter Clamp, "U" Bolts, Bolts, Hex. Nuts and Washers for mounting on 3" Pipe Post (No Post) (Front painted white, border and letters black) | B–8912–28 |
| **137325** | **Da** | **Highway Crossing Sign,** Refs. 14 and 16, with Adapter Clamp, "U" Bolts, Bolts, Hex. Nuts and Washers, for mounting on 4" Pipe Post (No Post) (Front painted white, border and letters black) | B–8912–28 |

UNION SWITCH & SIGNAL CO.

## STYLE "HC-3," "HC-31" AND "HC-32" TWO AND FOUR-UNIT COLOR LIGHT HIGHWAY CROSSING SIGNALS 8⅜" LENS AND CROSSING SIGNS (Continued)

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **138471** | **2** | **4" Pipe Post, 9' 1¼" long** with Base and Hole drilled for wires for Refs. A, Aa and Ab | B–9893–108 |
| **138472** | **2a** | **4" Pipe Post, 9' 1¼" long** with Base (Undrilled) for Ref. 2 | B–12440–20 |
| **137404** | **3** | **3" Pipe Post, 12' 9½" long,** with Clamp Base and Hole drilled for wires, for Refs. B, Ba and Bb | B–9893–129 |
| | **3a** | **3" Pipe Post, 12' 9½" long,** with Clamp Base (Undrilled) for Ref. 3 | B–12440 |
| **136842** | **4** | **4" Pipe Post, 12' 6½" long,** with Base and Hole drilled for wires, for Refs. C, Cb and Cd | B–9893–107 |
| **135631** | **4a** | **4" Pipe Post, 12' 6½" long,** with Base (Undrilled) for Refs. 4, and 4b | B–12440–20 |
| **136841** | **4b** | **4" Pipe Post, 12' 6½" long,** with Base and Hole drilled for wires, for Refs. Ca, Cc and Ce | B–9893–129 |
| **132547** | **5** | **Lamp Unit, Style "HC-3" with 20" Background and Hood** (without Bulb) for details refer to Plate K-111 for Refs. A, B, C and Ca | C–8965–22 |
| **136547** | **5a** | **Lamp Unit, Style "HC-31" with 20" Background and Hood** (without Bulb) for details refer to Plate K-112, for Refs. Aa, Ba, Cb and Cc | C–8965–25 |
| **136548** | **5b** | **Lamp Unit, Style "HC-32" with 20" Background and Hood** (without Bulb) for details refer to Plate K-113, for Refs. Ab, Bb, Cd and Ce | C–8965–26 |
| **93408** | **6** | **Pinnacle,** for Refs. A, Aa, Ab, C, Ca, Cb, Cc, Cd and Ce | B–8121–16 |
| **70957** | **7** | **Pinnacle,** for Refs. B, Ba and Bb | B–8121–14 |

UNION SWITCH & SIGNAL CO.

## STYLE "HC-3," "HC-31" AND "HC-32" TWO AND FOUR-UNIT COLOR LIGHT HIGHWAY CROSSING SIGNALS 8⅜" LENS AND CROSSING SIGNS (Continued)

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **132588** | 8 | **Lamp Supporting Arm** | B–12477–4 |
| **138311** | 9 | **Adapter and Cap** (will fit either 3″, 4″ or 5″ Pipe) used when mounting Units back to back for Refs. A, Aa and Ab | C–8964–46 |
| **130998** | 10 | **Adapter and Cap** (will fit either 3″ or 4″ Pipe) for Refs. B, Ba, Bb, C, Ca, Cb, Cc, Cd and Ce | C–8964–31 |
| **130913** | 11 | **Lamp Unit Support** | C–8964–27 |
| **132848** | 12 | **Reducing Elbow, 2″x1½″** (M. I. Black) | C–8964–30 |
| **136835** | 13 | **Crossing Sign** (Lettered "Railroad") with Red Lead Priming Coat only for Refs. A, Aa, Ab, B, Ba and Bb | C–5844–5 |
| **137021** | 14 | **Crossing Sign** (Lettered "Railroad") front painted white, border and letters black, for Refs. C, Ca, Cb, Cc, Cd, Ce, D and Da | C–5844–5 |
| **137145** | 15 | **Crossing Sign** (Lettered "Crossing") with red lead Priming Coat only for Refs. A, Aa, Ab, B, Ba and Bb | C–5844–5 |
| **137146** | 16 | **Crossing Sign** (Lettered "Crossing") front painted white, border and letters black, for Refs. C, Ca, Cb, Cc, Cd, Ce, D and Da | C–5844–5 |
| **137045** | 17 | **Adapter Clamp** for Crossing Sign (will fit either 3″, 4″ or 5″ pipe) | C–8964–42 |
| **131881** | 18 | **½″ "U" Bolt** with Hex. Nuts and Plate Washers for 3″ Pipe | 8782–75 |
| **60115** | 18a | **½″ "U" Bolt** with Hex. Nuts and Plate Washers for 4″ Pipe | 8782–108 |

UNION SWITCH & SIGNAL CO.

## STYLE "HC-3," "HC-31" AND "HC-32" TWO AND FOUR-UNIT COLOR LIGHT HIGHWAY CROSSING SIGNALS 8⅜" LENS AND CROSSING SIGNS (Continued)

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | **19** | **Bolt,** ½"x7" Sq. Hd. with ½" Hex. Nut and Std. ½" Plate Washer for attaching two adapters Ref. 9 back to back to 4" Pipe Post. | |
| **119646** | **20** | **Steps,** for Refs. B, Ba and Bb | 12536–5 |
| **10478** | **21** | **Foundation Bolt,** ¾"x18" with Hex. Nut | 7913–44 |
| | **22** | **Set Screw,** ½"x¾" Sq. Hd. Cup Pt. (Cad. Pl.) | |
| | **23** | **Tap Bolt,** ½"x1¼" Hex. Hd. (Cad. Pl.) with ½" Plain Lock Washer (3/16"x3/32") (Cad. Pl.) | |
| | **24** | **Bolt,** ⅝"x3¾" Sq. Hd. with Hex. Nut for attaching Crossing Signs to Adapter Clamp Ref. 17. | |
| **130943** | **25** | **Electric Lamp (10 volts, 10 watts or 12 volts, 12 watts)** for Refs. A, B, C and Ca (Not shown) | B–12409–12 |
| | **25a** | **Electric Lamp (8 volts, 10 watts)** (not shown) for Refs. A, B, C and Ca | B–12409–12 |
| **113698** | **25b** | **Electric Lamp (12 volts, 7.5 watts)** for Refs. Aa, Ba, Cb and Cc | B–12409–14 |
| **116447** | **25c** | **Electric Lamp (10 volts, 18 watts)** for Refs. Ab, Bb, Cd and Ce | B–12409–16 |
| **78273** | **26** | **Relay Box,** (for details refer to Ref. Aa, Plate L-1045) | C–7976–9 |
| **71278** | **27** | **Bracket** for mounting Relay Boxes to 3", 4", 5" and 6" Pipe (for details see Plate L-1120) | C–8034–13 |
| **75588** | **28** | **Cable Outlet** (for details refer to Ref. A, Plate L-1125) | B–10342–9 |
| **54865** | **29** | ¾" **"U" Bolt** with two ¾" Hex. Nuts for attaching Ref. 27 to 4" Pipe | 8782–102 |

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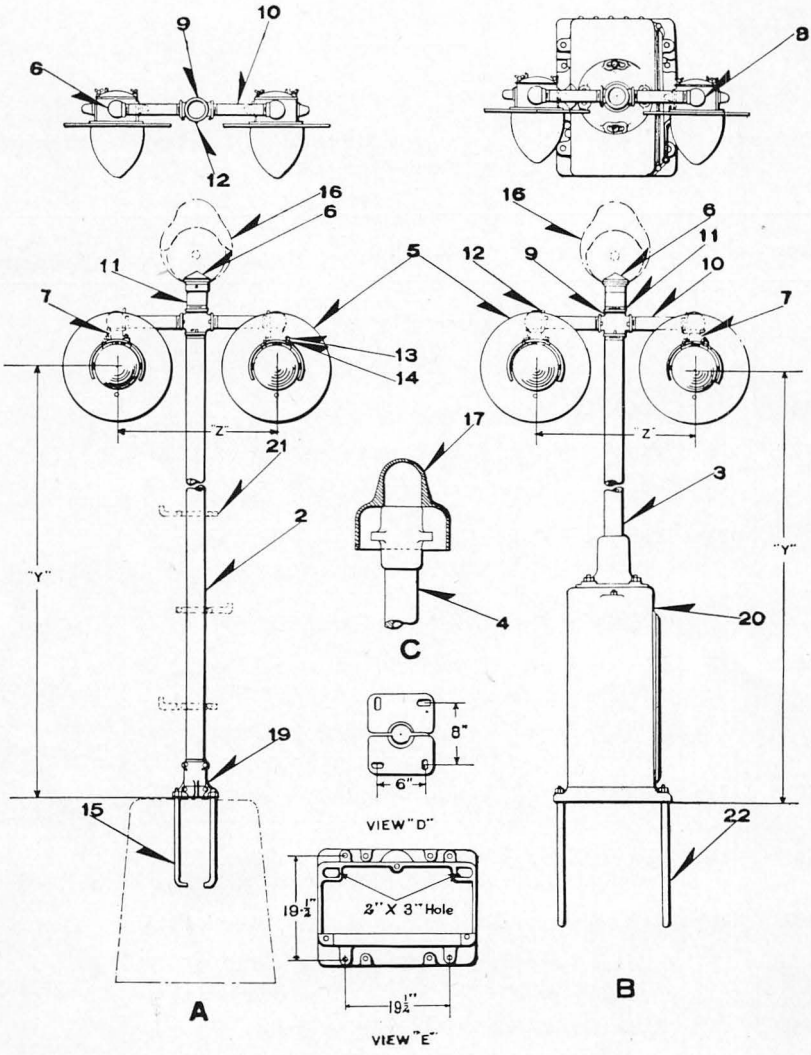


STYLE "HC-3," "HC-31" AND "HC-32" TWO-UNIT COLOR LIGHT HIGHWAY CROSSING SIGNAL

UNION SWITCH & SIGNAL CO.

# STYLE "HC-3," "HC-31" AND "HC-32" TWO-UNIT COLOR LIGHT HIGHWAY CROSSING SIGNALS

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **132589** | **A** | **Two-Unit Color Light Style "HC-3" Highway Crossing Signal** (Units as shown on Plate K-111) mounted on 3″ Pipe Post with Base Per View "D" as shown, "Y" dimension 8′ 0″ and "Z" dimension 2′ 6″ | B–8912–12 |
| | **Aa** | **Two-Unit Color Light Style "HC-31" Highway Crossing Signal** (Units as shown on Plate K-112) mounted on 3″ Pipe Post with Base Per View "D", "Y" dimension 8′ 0″ and "Z" dimension 2′ 6″ | B–8912–21 |
| | **Ab** | **Two-Unit Color Light Style "HC-32" Highway Crossing Signal** (Units as shown on Plate K-113) mounted on 3″ Pipe Post with Base Per View "D," "Y" dimension 8′ 0″ and "Z" dimension 2′ 6″ | B–8912–21 |
| **133260** | **Ac** | **Two-Unit Color Light Style "HC-3" Highway Crossing Signal** (Units as shown on Plate K-111) mounted on 3″ Pipe Post with Base Per View "D" and Steps as shown in dot and dash lines, "Y" dimension 7′ 6″ and "Z" dimension 2′ 6″ | B–8912–23 |
| | **Ad** | **Two-Unit Color Light Style "HC-31" Highway Crossing Signal** (Units as shown on Plate K-112) mounted on 3″ Pipe Post with Base Per View "D" and Steps as shown in dot and dash lines, "Y" dimension 7′ 6″ and "Z" dimension 2′ 6″ | B–8912–23 |
| | **Ae** | **Two-Unit Color Light Style "HC-32" Highway Crossing Signal** (Units as shown on Plate K-113) mounted on 3″ Pipe Post with Base Per View "D" and Steps as shown in dot and dash lines, "Y" dimension 7′ 6″ and "Z" dimension 2′ 6″ | B–8912–23 |
| **133261** | **B** | **Two-Unit Color Light Style "HC-3" Highway Crossing Signal** (Units as shown on Plate K-111) with 3″ Pipe Post, Base Per View "E" mounted on Instrument Case, "Y" dimension 7′ 6″ and "Z" dimension 2′ 6″ | B–8912–23 |

UNION SWITCH & SIGNAL CO.

## STYLE "HC-3," "HC-31" AND "HC-32" TWO-UNIT COLOR LIGHT HIGHWAY CROSSING SIGNALS (Continued)

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | **Ba** | **Two-Unit Color Light Style "HC-31" Highway Crossing Signal** (Units as shown on Plate K-112) with 3″ Pipe Post, Base Per View "E," mounted on Instrument Case, "Y" dimension 7′ 6″ and "Z" dimension 2′ 6″ | B–8912–23 |
| | **Bb** | **Two-Unit Color Light Style "HC-32" Highway Crossing Signal** (Units as shown on Plate K-113) with 3″ Pipe Post, Base Per View "E," mounted on Instrument Case, "Y" dimension 7′ 6″ and "Z" dimension 2′ 6″ | B–8912–23 |
| **134630** | **C** | **Two-Unit Color Light Style "HC-3" Highway Crossing Signal** (Units as shown on Plate K-111) with 3″ Pipe Post, Cap Per View "C," Steps as shown in dot and dash lines and Base Per View "D," "Y" dimension 7′ 6″ and "Z" dimension 2′ 0″ (without Instrument Case) | B–8912–23 |
| | **Ca** | **Two-Unit Color Light Style "HC-31" Highway Crossing Signal** (Units as shown on Plate K-112) with 3″ Pipe Post, Cap Per View "C," Steps as shown in dot and dash lines and Base Per View "D," "Y" dimension 7′ 6″ and "Z" dimension 2′ 6″ (without Instrument Case) | B–8912–23 |
| | **Cb** | **Two-Unit Color Light Style "HC-32" Highway Crossing Signal** (Units as shown on Plate K-113) with 3″ Pipe Post, Cap Per View "C," Steps as shown in dot and dash lines and Base Per View "D," "Y" dimension 7′ 6″ and "Z" dimension 2′ 6″ (without Instrument Case) | B–8912–23 |
| | **Cc** | **Two-Unit Color Light Style "HC-3" Highway Crossing Signal** (Units as shown on Plate K-111) with 3″ Pipe Post, Cap Per View "C," and Base Per View "E," Mounted on Instrument Case, "Y" dimension 7′6″ and "Z" dimension 2′ 6″ | B–8912–23 |

UNION SWITCH & SIGNAL CO.

## STYLE "HC-3," "HC-31" AND "HC-32" TWO-UNIT COLOR LIGHT HIGHWAY CROSSING SIGNALS (Continued)

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | Cd | **Two-Unit Color Light Style "HC-31" Highway Crossing Signal** (Units as shown on Plate K-112) with 3″ Pipe Post, Cap Per View "C" and Base Per View "E," Mounted on Instrument Case, "Y" dimension 7′ 6″ and "Z" dimension 2′ 6″.... | B–8912–23 |
| | Ce | **Two-Unit Color Light Style "HC-32" Highway Crossing Signal** (Units as shown on Plate K-113) with 3″ Pipe Post, Cap Per View "C" and Base Per View "E," Mounted on Instrument Case, "Y" dimension 7′ 6″ and "Z" dimension 2′ 6″..... | B–8912–23 |
| **132586** | 2 | **3″ Pipe Post, 9′ 4″ Long,** from bottom of socket to top of Post, with Pipe Cross Ref. 9, three Set Screws Ref. 12 and Pipe Ref. 11, for Refs. A, Aa and Ab..... | B–12440–18 |
| **133130** | 2a | **3″ Pipe Post, 8′ 10″ Long,** from bottom of socket to top of Post, with Pipe Cross Ref. 9, Three Set Screws Ref. 12 and Pipe Ref. 11 for Refs. Ac, Ad and Ae..... | B–12440–18 |
| **133259** | 3 | **3″ Pipe Post, 5′ 5¾″ Long,** from bottom of socket to Top of Post, with Pipe Cross Ref. 9, three Set Screws Ref. 12 and Pipe Ref. 11 for Refs. B, Ba and Bb..... | B–12440–18 |
| **134631** | 4 | **3″ Pipe Post, 9′ 7¾″ Long,** from bottom of socket to Top of Post Head, with Pipe Cross Ref. 9, three Set Screws Ref. 12 and Pipe Ref. 17 for Refs. C, Ca and Cb..... | B–12440–18 |
| | 4a | **3″ Pipe Post, 6′ 3½″ Long,** from bottom of socket to Top of Post Head, with Pipe Cross Ref. 9, three Set Screws Ref. 12 and Pipe Ref. 17 for Refs. Cc, Cd and Ce..... | B–12440–18 |

UNION SWITCH & SIGNAL CO.

## STYLE "HC-3," "HC-31" AND "HC-32" TWO-UNIT COLOR LIGHT HIGHWAY CROSSING SIGNALS (Continued)

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **134629** | **4b** | **Piece 3″ Pipe, 12″ Long** for Refs. 4 and 4a | B–10925–2 |
| **132547** | **5** | **Lamp Unit with 20″ Background and Hood for Style "HC-3" Signals** (Without Bulb) for details refer to Plate K-111 | C–8965–22 |
| | **5a** | **Lamp Unit, with 20″ Background and Hood for Style "HC-31" Signals** (Without Bulb) for details refer to Plate K-112 | C–8965–22 |
| | **5b** | **Lamp Unit, with 20″ Background and Hood for Style "HC-32" Signals** (Without Bulb) for details refer to Plate K-113 | C–8965–22 |
| **70957** | **6** | **Pinnacle** | B–8121–14 |
| **130913** | **7** | **Lamp Unit Support** | C–8964–27 |
| **132848** | **8** | **Reducing Elbow** (Black M. I. 2″x1½″) | C–8964–30 |
| **134545** | **9** | **Pipe Cross, 3″x2″** | C–8964–39 |
| **132587** | **10** | **Lamp Supporting Arm** | B–12477–2 |
| **62718** | **11** | **Piece 3″ pipe, 7″ long** | B–10925–1 |
| | **12** | **Set Screw,** ½″x¾″ Sq. Hd. Cup Point I. (Cad. Pl.) | |
| | **13** | **Tap Bolt,** ½″x1¼″ Hex. Hd. (Cad. Pl.). | |
| | **14** | **Lock Washer,** ½″ Plain ($\frac{3}{16}$″x$\frac{3}{16}$″) Cad. Pl. for Ref. 13. | |
| **10478** | **15** | **Foundation Bolt,** ¾″x18″ with ¾″ Hex. Nut and Std. Plate Washer for Refs. A, Aa, Ab, Ac, Ad, Ae, C, Ca and Cb | 7913–44 |

UNION SWITCH & SIGNAL CO.

## STYLE "HC-3," "HC-31" AND "HC-32" TWO-UNIT COLOR LIGHT HIGHWAY CROSSING SIGNALS (Continued)

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | **16** | **Crossing Bell** (Plate K-80 D.C. and Plate K-91 A.C.) | |
| **72394** | **17** | **Cable Cap,** for Refs. C, Ca, Cb, Cc, Cd and Ce..... | C–6041–1 |
| **130943** | **18** | **Electric Lamp (10 Volts, 10 Watts, or 12 Volts, 12 Watts)** (not shown) for Ref. 5..... | B–12409–12 |
| | **18a** | **Electric Lamp (8 Volts, 10 Watts)** for Ref. 5..... | B–12409–12 |
| **113698** | **18b** | **Electric Lamp (12 Volts, 7.5 Watts)** for Ref. 5a..... | B–12409–14 |
| **116447** | **18c** | **Electric Lamp (10 Volts, 18 Watts)** for Ref. 5b..... | B–12409–16 |
| **70780** | **19** | **Clamped Base,** with Bolts and nuts for 3″ pipe..... | C–6634–1 |
| **126298** | **20** | **Instrument Case** for Refs. B and Ca..... | C–7589–24 |
| **119646** | **21** | **Step,** for 3″ Pipe..... | 12536–5 |
| **10276** | **22** | **Foundation Bolt, 1″x3′ 0″** with 1″ Hex. Nut..... | 7913–54 |

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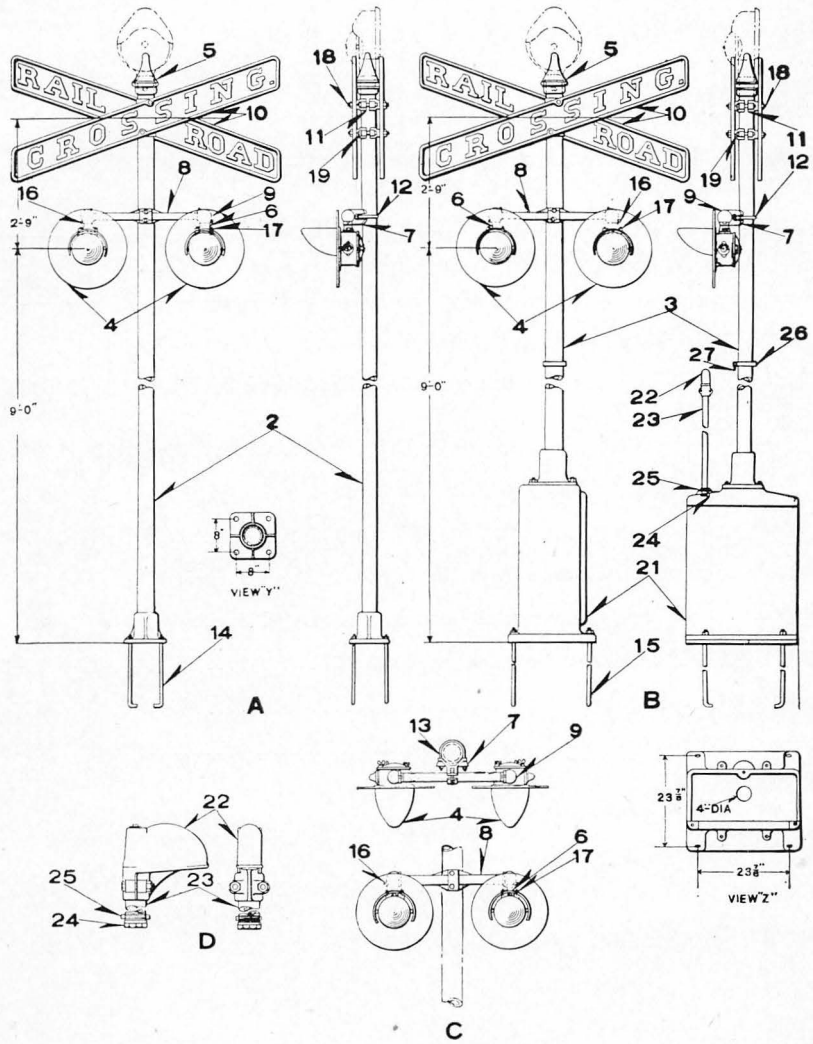


STYLE "HC-3," "HC-31" AND "HC-32" TWO-UNIT COLOR LIGHT HIGHWAY CROSSING SIGNALS

UNION SWITCH & SIGNAL CO.

## STYLE "HC-3," "HC-31" AND "HC-32" TWO-UNIT COLOR LIGHT HIGHWAY CROSSING SIGNALS 8⅜″ LENS

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **135594** | **A** | **Two-Unit Color Light Style "HC-3" Highway Crossing Signal** (Units as shown on Plate K-111) mounted on 4″ Pipe Post with Crossing Sign, Base Per View "Y" and Pinnacle as shown..... | B–8912–25 |
| | **Aa** | **Two-Unit Color Light Style "HC-31" Highway Crossing Signal** (Units as shown on Plate K-112) mounted on 4″ Pipe Post with Crossing Sign, Base Per View "Y" and Pinnacle as shown..... | B–8912–25 |
| | **Ab** | **Two-Unit Color Light Style "HC-32" Highway Crossing Signal** (Units as shown on Plate K-113) mounted on 4″ Pipe Post with Crossing Sign, Base Per View "Y" and Pinnacle as shown..... | B–8912–25 |
| **135595** | **B** | **Two-Unit Color Light Style "HC-3" Highway Crossing Signal** (Units as shown on Plate K-111) mounted on 4″ Pipe Post with Instrument Case, Crossing Sign, Clamp, Wire Eye, Base Per View "Z" and Pinnacle as shown..... | B–8912–25 |
| | **Ba** | **Two-Unit Color Light Style "HC-31" Highway Crossing Signal** (Units as shown on Plate K-112) mounted on 4″ Pipe Post with Instrument Case, Crossing Sign, Clamp, Wire Eye, Base Per View "Z" and Pinnacle as shown..... | B–8912–25 |
| | **Bb** | **Two-Unit Color Light Style "HC-32" Highway Crossing Signal** (Units as shown on Plate K-113) mounted on 4″ Pipe Post with Instrument Case, Crossing Sign, Clamp, Wire Eye, Base Per View "Z" and Pinnacle as shown..... | B–8912–25 |
| **132590** | **C*** | **Two-Unit Color Light Style "HC-3" Highway Crossing Signal,** Lamp Units Plate K-111, with Supporting Arms for Mounting on existing 5″ Pipe Post..... | B–8912–21 |

UNION SWITCH & SIGNAL CO.

## STYLE "HC-3," "HC-31" AND "HC-32" TWO-UNIT COLOR LIGHT HIGHWAY CROSSING SIGNALS 8⅜″ LENS (Continued)

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | Ca* | **Two-Unit Color Light Style "HC-31" Highway Crossing Signal,** Lamp Units Plate K-112, with Supporting Arms for Mounting on Existing 5″ Pipe Post | B–8912–21 |
| | Cb* | **Two-Unit Color Light Style "HC-32" Highway Crossing Signal,** Lamp Units Plate K-113, with Supporting Arms for mounting on existing 5″ Pipe Post | B–8912–21 |
| | | * These Signals can be furnished to mount on 3″, 4″ or 5″ Pipe Post. Orders must specify the size of Pipe on which signals are to be mounted. | |
| **135571** | 2 | **4″ Pipe Post 12′ 6½″ long,** with Base and Hole drilled for wires for Refs. Aa and Ab | B–9893–107 |
| **135631** | 2a | **4″ Pipe Post 12′ 6½″ long,** with Base (Undrilled) for Ref. 2 | B–12440–20 |
| **135572** | 3 | **4″ Pipe Post 9′ 1½″ long,** with Base and Hole drilled for wires for Refs. B, Ba and Bb | B–9893–117 |
| **135570** | 3a | **4″ Pipe Post 9′ 1½″ long,** with Base (Undrilled) for Ref. 3 | B–12440–20 |
| **132547** | 4 | **Lamp Unit, Style "HC-3", with 20″ Background and Hood** (Without Bulb) for details see Plate K-111 for Refs. A, B and C | C–8965–22 |
| | 4a | **Lamp Unit Style "HC-31," with 20″ Background and Hood** (Without Bulb) for details see Plate K-112 for Refs. Aa, Ba and Ca | C–8965–22 |
| | 4b | **Lamp Unit Style "HC-32," with 20″ Background and Hood** (Without Bulb) for details see Plate K-113 for Refs. Ab, Bb and Cb | C–8965–22 |
| **93408** | 5 | **Pinnacle,** for Refs. A and B | B–8121–16 |

UNION SWITCH & SIGNAL CO.

## STYLE "HC-3," "HC-31" AND "HC-32" TWO-UNIT COLOR LIGHT HIGHWAY CROSSING SIGNALS 8⅜" LENS (Continued)

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **130913** | **6** | **Lamp Unit Support** | C–8964–27 |
| **130998** | **7** | **Adapter and Cap** (will fit either 3", 4" or 5" Pipe) | C–8964–31 |
| **132588** | **8** | **Lamp Supporting Arm** | B–12477–4 |
| **132848** | **9** | **Reducing Elbow, 2"x1½"** (M. I. Black) | C–8964–30 |
| **59315** | **10** | **Crossing Sign** (Half) for Refs. A, Aa, Ab, B, Ba and Bb | C–5844–4 |
| **63444** | **11** | **Clamp** (Half) for 4" Pipe for Refs. A, Aa, Ab, B, Ba and Bb | B–8705–5 |
| **60115** | **12** | ½" **"U" Bolt** with ½" Hex. Nuts and ½" Std. Plate Washers for 4" Pipe for Refs. A and B | 8782–108 |
| **15594** | **13** | ½" **"U" Bolt** with ½" Hex. Nuts and ½" Std. Plate Washers for 5" Pipe for Ref. C | 8782–27 |
| **60115** | **13a** | ½" **"U" Bolt** with ½" Hex. Nuts and ½" Std. Plate Washers for 4" Pipe | 8782–108 |
| **46565** | **13b** | ½" **"U" Bolt** with ½" Hex. Nuts and ½" Std. Plate Washers for 3" Pipe | 8782–75 |
| **10478** | **14** | **Foundation Bolt, ¾"x18"** with ¾" Hex. Nut for Refs Refs. A, Aa and Ab | 7913–44 |
| **10276** | **15** | **Foundation Bolt, 1"x3' 0"** with 1" Hex. Nut for Refs. B, Ba and Bb | 7913–54 |
| | **16** | **Cup Point Set Screw, ½"x¾"** Sq. Hd. (Cad. Pl.) | |
| | **17** | **Tap Bolt, ½"x1¼"** Hex. Hd. with ½" Plain Lock Washer ($\frac{3}{16}$"x$\frac{3}{32}$") (Cad. Pl.) | |
| | **18** | **Bolt, ⅝"x2¼"** Sq. Hd. with ⅝" Hex. Nut. | |

UNION SWITCH & SIGNAL CO.

## STYLE "HC-3," "HC-31" AND "HC-32" TWO-UNIT COLOR LIGHT HIGHWAY CROSSING SIGNALS 8⅜" LENS (Continued)

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | **19** | **Bolt, ⅝"x5¼"** Sq. Hd. with ⅝" Hex. Nut. | |
| **130943** | **20** | **Electric Lamp (10 Volts, 10 Watts or 12 Volts, 12 Watts)** for Refs. A, B and C (Not shown)..... | B–12409–12 |
| | **20a** | **Electric Lamp (8 Volts, 10 Watts)** (Not shown) for Refs. A, B and C..... | B–12409–12 |
| **113698** | **20b** | **Electric Lamp (12 Volts, 7.5 Watts)** for Refs. Aa, Ba and Ca..... | B–12409–14 |
| **116447** | **20c** | **Electric Lamp (10 Volts, 18 Watts)** for Refs. Ab, Bb and Cb..... | B–12409–16 |
| **121196** | **21** | **Instrument Case,** for Ref. B, (For Details see Ref. Ar, Plate L-1135)..... | C–7589–6 |
| **71550** | **22** | **Cable Outlet,** for 1½" Pipe for Ref. B..... | B–10342–3 |
| **135653** | **23** | **Piece 1½" Galv. Pipe 4' 4" long,** for Ref. B..... | B–10925–2 |
| | **24** | **1½" T and B Bushing.** | |
| | **25** | **1½" T and B Lock Nut.** | |
| **90184** | **26** | **Clamp** for 4" Pipe complete with Bolts and Nuts for Ref. B..... | C–6041–2 |
| **3166** | **27** | **Wire Eye** for Ref. 26..... | 7735–2 |

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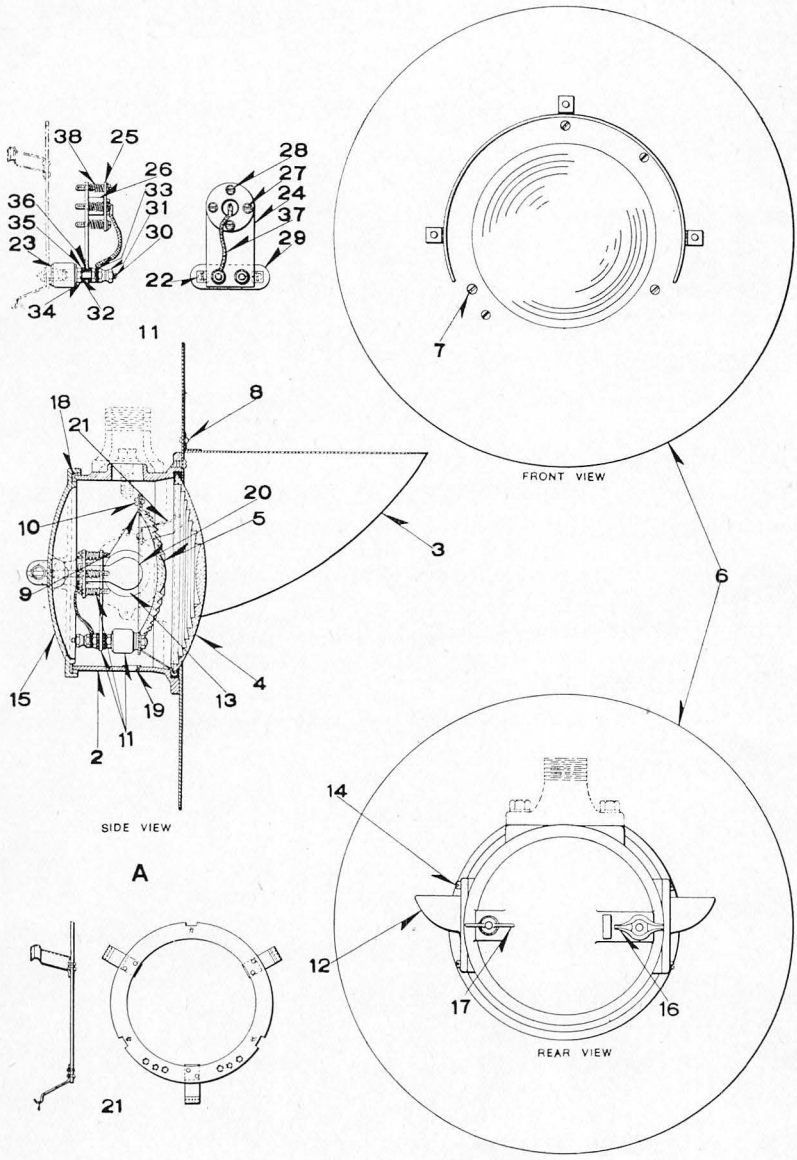


LAMP UNIT, 8⅜" LENS FOR STYLE "HC-3" COLOR LIGHT HIGHWAY CROSSING SIGNAL

UNION SWITCH & SIGNAL CO.

# LAMP UNIT, 8⅜″ LENS FOR STYLE "HC-3" COLOR LIGHT HIGHWAY CROSSING SIGNAL

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**For Complete Signals Refer to Plates K-109 and K-110**

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **132547** | **A** | **Lamp Unit** 8⅜″ Lens for Style "HC-3" Color Light Highway Crossing Signal with Background (No Bulb) | C–8965–22 |
| **135099** | **Aa** | **Lamp Unit** 8⅜″ Lens for Style "HC-3" Color Light Highway Crossing Signal (without Background and Bulb) | C–8965–22 |
| **132548** | **2** | **Case and Door** for Refs. A and Aa (Includes Refs. 2a, 15, 16, 17, 18 and 19) | C–8965–22 |
| **132414** | **2a** | **Case** only for Ref. 2 | C–8964–33 |
| **130985** | **3** | **Hood** | C–8964–30 |
| **135757** | **4** | **Spreadlite Lens, 8⅜″ Diam. Clear (Front)** | B–8276–34 |
| **135747** | **5** | **Lens, 5½″ Diam. Red (Back)** | B–8276–23 |
| **130923** | **6** | **Background, 20″ Diam.** | C–8964–23 |
| | **7** | **Machine Screw No. 14-24x⅜″** Rd. Hd. S. (Cad. Pl.) | |
| | **8** | **Rivet, ⅛″x⅜″** Rd. Hd. I. for attaching Hood to Background. | |
| **76735** | **9** | **Clip** | 11893–31 |
| | **10** | **Machine Screw No. 10-30x¼″** Fil. Hd. Br. for attaching clip Ref. 9 to Lens Support. | |
| **132515** | **11** | **Lamp Socket** with Lens Support Ref. 21 | C–8964–32 |
| **132414** | **11a** | **Lamp Socket** (Without Lens Support Ref. 21) | C–8964–32 |
| **124375** | **12** | **Hood** for Sidelight | C–8964–22 |
| **125931** | **13** | **Frosted Glass Shield** for Sidelight | 8163–222 |

UNION SWITCH & SIGNAL CO.

## LAMP UNIT, 8⅜" LENS FOR STYLE "HC-3" COLOR LIGHT HIGHWAY CROSSING SIGNAL (Continued)

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**For Complete Signals Refer to Plates K-109 and K-110**

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | 14 | **Machine Screw No. 10-30x⅝"** Fil. Hd. S. (Cad. Pl.) for attaching Ref. 12 to Case. | |
| | 15 | **Door** with Gasket for Ref. 2 | C–8964–33 |
| 132539 | 16 | **Thumb Screw** | 8331–69 |
| 132541 | 17 | **Thumb Screw** | 8331–70 |
| 124383 | 18 | **Gasket,** only for Door Ref. 15 | 8078–717 |
| 34340 | 19 | **Ventilator,** for Case, Ref. 2 | C–7459–6 |
| 130943 | 20 | **Electric Lamp (10 Volts, 10 Watts or 12 Volts, 12** Watts) | B–12409–12 |
| | 20a | **Electric Lamp (8 Volts, 10 Watts)** | B–12409–12 |
| 132513 | 21 | **Lens Support** | C–8964–32 |
| | 22 | **Machine Screw No. 14-24x1"** Fil. Hd. S. (Cad. Pl.) with Nut Ref. 22b and ¼" Plain Lock Washer (1/16" x 1/16") for attaching Lamp Socket to Lens Support. | |
| | 22a | **Machine Screw No. 14-24x1"** Fil. Hd. S. (Cad. Pl.) for Ref. 22. | |
| 127260 | 22b | **Hex. Nut,** only for Refs. 22 and 30 | 8109–194 |
| 114118 | 23 | **Ins. Washer** | 8078–1362 |
| 132512 | 24 | **Lamp Support,** only | C–8964–32 |
| 132511 | 25 | **Lamp Socket Plate** only | C–8964–32 |
| 131611 | 26 | **Lamp Socket** only | C–8665–2 |
| | 27 | **Machine Screw No. 10-30x1¼"** Fil. Hd. Br. | |

UNION SWITCH & SIGNAL CO.

## LAMP UNIT, 8⅜" LENS FOR STYLE "HC-3" COLOR LIGHT HIGHWAY CROSSING SIGNAL (Continued)

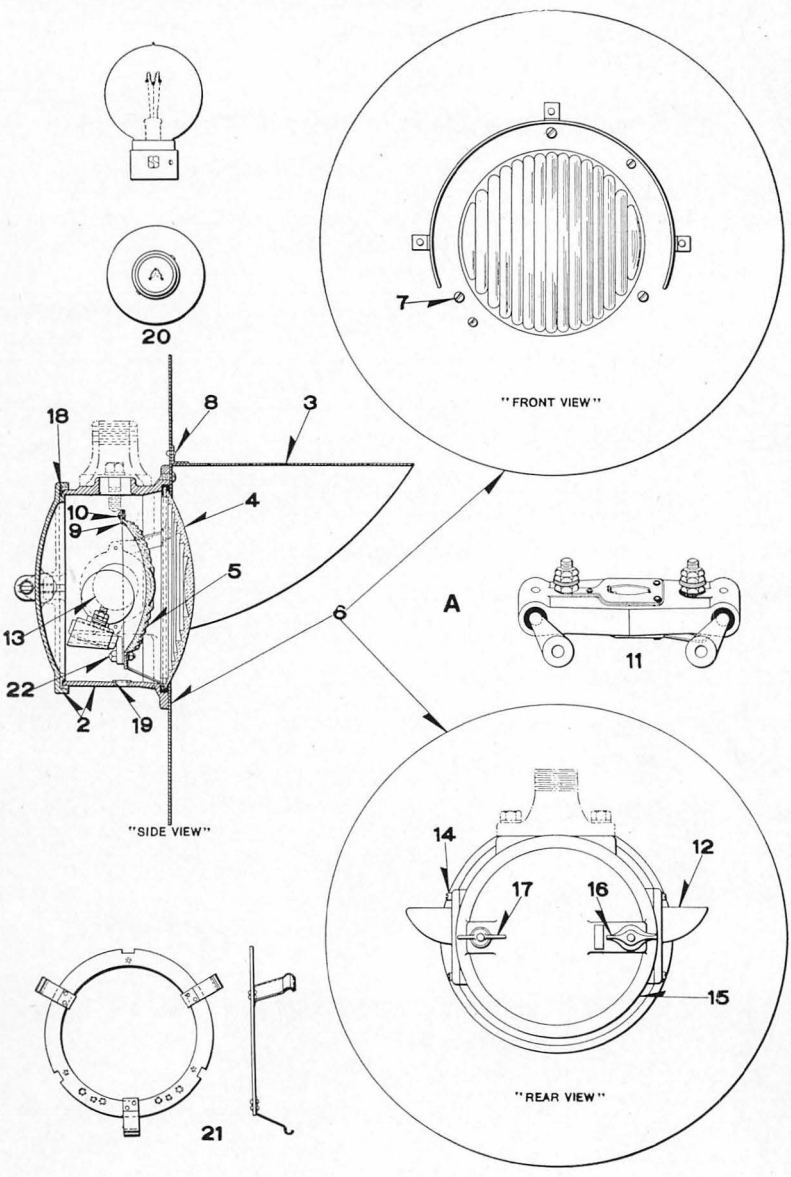
**For Complete Signals Refer to Plates K-109 and K-110**

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **44618** | **28** | **Washer,** only | 7828–184 |
| **114147** | **29** | **Terminal Block** | 9968–628 |
| | **30** | **Terminal Post,** with Nuts, Washers, Ins. Washers and Bushing | 12451 |
| **113978** | **30a** | **Terminal Post,** only for Ref. 30 | 8094–1192 |
| **29101** | **31** | **Hex. Nut** for Ref. 30 | 8109–193 |
| **29103** | **32** | **Hex. Nut** for Ref. 30 | 8109–194 |
| **29102** | **33** | **Washer** for Ref. 30 | 7828–139 |
| **29104** | **34** | **Washer** for Ref. 30 | 7828–138 |
| **9468** | **35** | **Ins. Washer** for Ref. 30 | 8078–76 |
| **18470** | **36** | **Ins. Bushing** for Ref. 30 | B–10270–1 |
| **56165** | **37** | **Lead** | B–9991–4 |
| **135035** | **38** | **Coil Spring** | 8124–144 |

PLATE K-112

UNION SWITCH & SIGNAL CO.




LAMP UNIT, FOR STYLE "HC-31" COLOR LIGHT HIGHWAY CROSSING SIGNAL, 8 3/8" LENS

UNION SWITCH & SIGNAL CO.

# LAMP UNIT, 8 3/8" LENS FOR STYLE "HC-31" COLOR LIGHT HIGHWAY CROSSING SIGNAL

**For Complete Signals Refer to Plates K-109 and K-110**

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | A | **Lamp Unit** 8 3/8" Lens for Style "HC-31" Color Light Highway Crossing Signal complete, with Background (No Bulb) | C–8965–22 |
| | Aa | **Lamp Unit** 8 3/8" Lens for Style "HC-31" Color Light Highway Crossing Signal complete, (Without Background and Bulb) | C–8965–22 |
| **132548** | 2 | **Case and Door,** for Refs. A and Aa (includes Refs. 2a, 15, 16, 17, 18 and 19) | C–8965–22 |
| **132414** | 2a | **Case,** only for Ref. 2 | C–8964–33 |
| **130985** | 3 | **Hood** | C–8964–30 |
| **135757** | 4 | **Spreadlite Lens 8 3/8" Diam. Clear** (Front) | B–8276–34 |
| **135747** | 5 | **Lens, 5 1/2" Diam. Red** (Back) | B–8276–23 |
| **130923** | 6 | **Background 20" Diam.** | C–8964–23 |
| | 7 | **Machine Screw No. 14-24x3/8"** Rd. Hd. S. (Cad. Pl.) | |
| | 8 | **Rivet, 1/8"x3/8"** Rd. Hd. I. for attaching Hood to Background. | |
| **76735** | 9 | **Clip** | 11893–31 |
| | 10 | **Machine Screw No. 10-30x1/4"** Fil. Hd. Br. for attaching Clip Ref. 9 to Lens Support. | |
| | 11 | **Lamp Socket,** with Studs | C–8964–32 |
| **124375** | 12 | **Hood** for Sidelight | C–8964–22 |
| **125931** | 13 | **Frosted Glass Shield** for Sidelight | 8163–222 |

UNION SWITCH & SIGNAL CO.

## LAMP UNIT, 8⅜″ LENS FOR STYLE "HC-31" COLOR LIGHT HIGHWAY CROSSING SIGNAL (Continued)

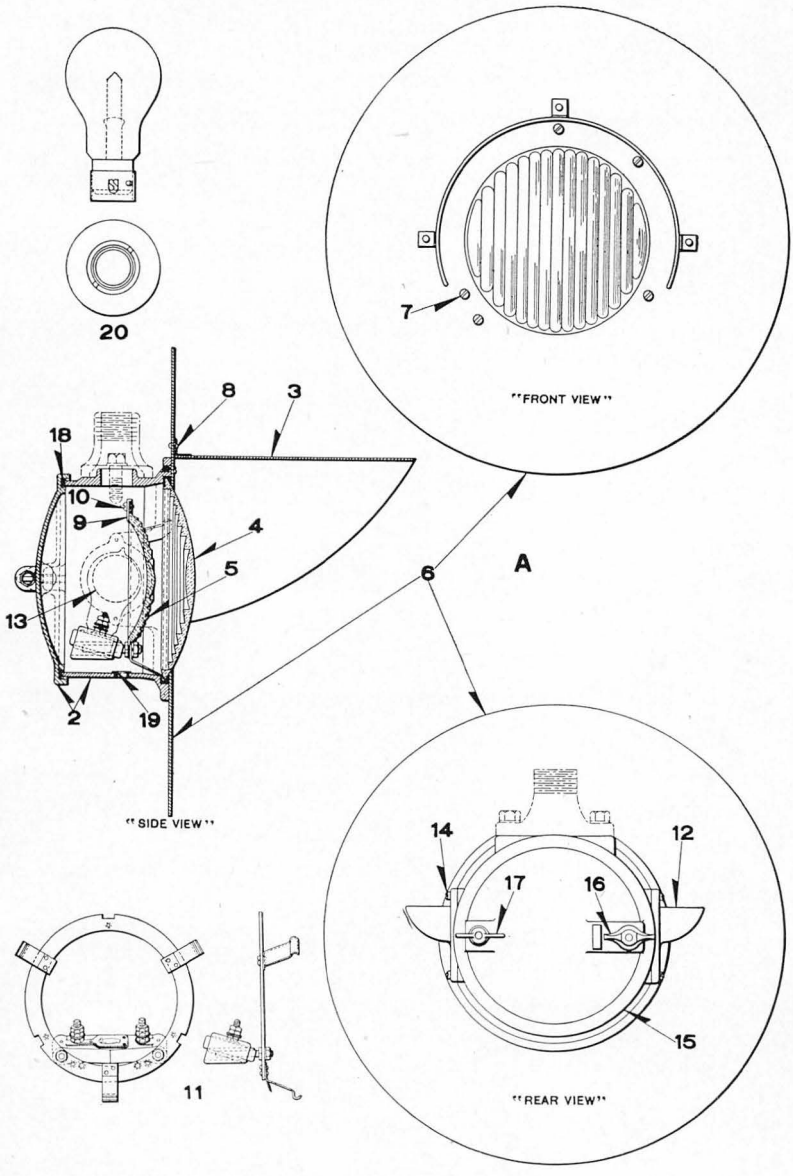
For Complete Signals Refer to Plates K-109 and K-110

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | 14 | **Machine Screw No. 10-30x⅝″** Fil. Hd. S. (Cad. Pl.) for attaching Ref. 12 to Case. | |
| | 15 | **Door** with Gasket for Ref. 2 | C–8964–33 |
| 132539 | 16 | **Thumb Screw** | 8331–69 |
| 132541 | 17 | **Thumb Screw** | 8331–70 |
| 124383 | 18 | **Gasket,** only for Door Ref. 15 | 8078–717 |
| 34340 | 19 | **Ventilator,** for Case Ref. 2 | C–7459–6 |
| 113698 | 20 | **Electric Lamp (12 Volts, 7.5 Watts)** | B–12409–14 |
| 132513 | 21 | **Lens Support** | C–8964–32 |
| | 22 | **Machine Screw No. 14-24x1″** Fil. Hd. S. (Cad. Pl.) with Nut Ref. 22b and ¼″ Plain Lock Washer (1/16″x1/16″) for attaching Lamp Socket to Lens Support. | |
| | 22a | **Machine Screw No. 14-24x1″** Fil. Hd. S. (Cad. Pl.) for 22. | |
| 127260 | 22b | **Hex. Nut,** only for Ref. 22 | 8109–194 |
| | 22c | **Lock Washer,** ¼″ Plain (1/16″x1/16″) for Ref. 22. | |

PLATE K-113

UNION SWITCH & SIGNAL CO.




LAMP UNIT FOR STYLE "HC-32" COLOR LIGHT HIGHWAY CROSSING SIGNAL, 8⅜" LENS

UNION SWITCH & SIGNAL CO.

# LAMP UNIT, 8⅜″ LENS FOR STYLE "HC-32" COLOR LIGHT HIGHWAY CROSSING SIGNAL

**For Complete Signals Refer to Plates K-109 and K-110**

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | **A** | **Lamp Unit,** 8⅜″ Lens for Style "HC-32" Color Light Highway Crossing Signal, with Background (No Bulb) | C–8965–22 |
| | **Aa** | **Lamp Unit,** 8⅜″ Lens for Style "HC-32" Color Light Highway Crossing Signal, (without Background and Bulb) | C–8965–22 |
| **132548** | **2** | **Case and Door** for Refs. A, and Aa (Includes 2a, 15, 16, 17, 18 and 19) | C–8965–22 |
| **132414** | **2a** | **Case,** only for Ref. 2 | C–8964–33 |
| **130985** | **3** | **Hood** | C–8964–30 |
| **135757** | **4** | **Spreadlite Lens, 8⅜″ Diam. Clear** (Front) | B–8276–34 |
| **135747** | **5** | **Lens, 5½″ Diam. Red** (Back) | B–8276–23 |
| **130923** | **6** | **Background, 20″ Diam.** | C–8964–23 |
| | **7** | **Machine Screw No. 14-24x⅜″** Rd. Hd. S. (Cad. Pl.) | |
| | **8** | **Rivet, ⅛″x⅜″** Rd. Hd. I. for attaching Hood to Background. | |
| **76735** | **9** | **Clip** | 11893–31 |
| | **10** | **Machine Screw No. 10-30x¼″** Fil. Hd. Br. for attaching Clip Ref. 9 to Lens Support. | |
| | **11** | **Lamp Socket** with Lens Support, Studs and Nuts | C–8964–32 |
| **124375** | **12** | **Hood** for Sidelight | C–8964–22 |
| **125931** | **13** | **Frosted Glass Shield** for Sidelight | 8163–222 |

UNION SWITCH & SIGNAL CO.

## LAMP UNIT, 8⅜″ LENS FOR STYLE "HC-32" COLOR LIGHT HIGHWAY CROSSING SIGNAL (Continued)

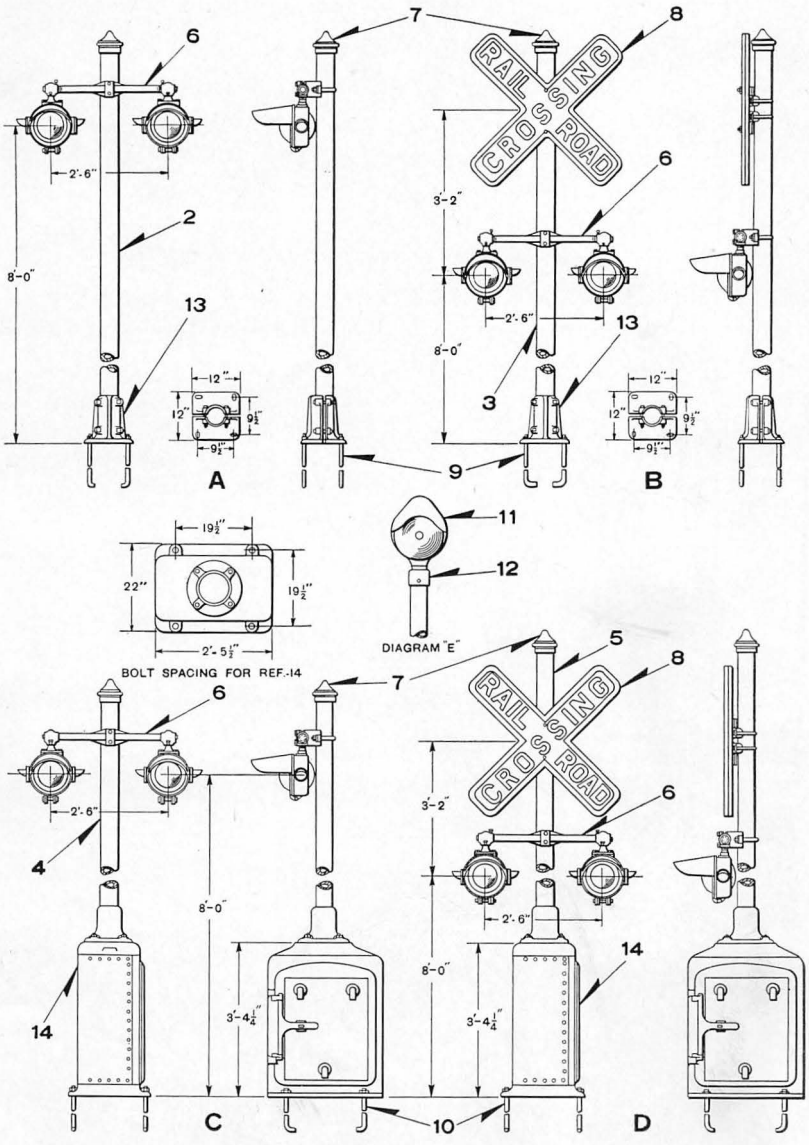
For Complete Signals Refer to Plates K-109 and K-110

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | **14** | **Machine Screw No. 10-30x⅝″** Fil. Hd. S. (Cad. Pl.) for attaching Ref. 12 to Case. | |
| | **15** | **Door** with Gasket for Ref. 2 | C–8964–33 |
| **132539** | **16** | **Thumb Screw** | 8331–69 |
| **132541** | **17** | **Thumb Screw** | 8331–70 |
| **124383** | **18** | **Gasket,** only for Door Ref. 15 | 8078–717 |
| **34340** | **19** | **Ventilator,** for Case Ref. 2 | C–7459–6 |
| **116447** | **20** | **Electric Lamp (10 Volts, 18 Watts)** | B–12409–16 |

PLATE K-120

UNION SWITCH & SIGNAL CO.




STYLE "HC-5" TWO UNIT COLOR LIGHT
HIGHWAY CROSSING SIGNALS

UNION SWITCH & SIGNAL CO.

## STYLE "HC-5" TWO UNIT COLOR LIGHT HIGHWAY CROSSING SIGNALS

Unless orders specify otherwise, all signals listed on this plate will be furnished with Lamp Units Ref. A, Plate K-127 and 11-Volt, 11-Watt Lamps: Signals Refs. C to Da with Instrument Cases per Ref. A, Plate L-1135 and Signals Refs. Aa, Ba, Ca and Da with 31-Ohm Bell for operation on 10-11 Volts.

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **149050** | **A** | **Two Unit Color Light Style "HC-5" Highway Crossing Signal** (Units as shown on Ref. A, Plate K-127) mounted on 4″ Pipe Post with Pinnacle, Foundation Bolts and 11-Volt, 11-Watt Lamp Bulbs..... | B–8912–43 |
| | **Aa** | **Two Unit Color Light Style "HC-5" Highway Crossing Signal,** Ref. A, with 31-Ohm Crossing Bell for operation on 10-11 Volts per Diagram "E"..... | B–8912 |
| | **B** | **Two Unit Color Light Style "HC-5" Highway Crossing Signal** (Units as shown on Ref. A, Plate K-127) mounted on 4″ Pipe Post with Crossing Sign, Pinnacle, Foundation Bolts and 11-Volt, 11-Watt Lamp Bulbs..... | B–8912–43 |
| | **Ba** | **Two Unit Color Light Style "HC-5" Highway Crossing Signal,** Ref. B, with 31-Ohm Crossing Bell for operation on 10-11 Volts per Diagram "E"..... | B–8912 |
| | **C** | **Two Unit Color Light Style "HC-5" Highway Crossing Signal** (Units as shown on Ref. A, Plate K-127) mounted on 4″ Pipe Post with Pinnacle, Instrument Case, Foundation Bolts and 11-Volt, 11-Watt Lamp Bulbs..... | B–8912 |
| | **Ca** | **Two Unit Color Light Style "HC-5" Highway Crossing Signal,** Ref. C, with 31-Ohm Crossing Bell for operation on 10-11 Volts per Diagram "E"..... | B–8912 |
| | **D** | **Two Unit Color Light Style "HC-5" Highway Crossing Signal** (Units as shown on Ref. A, Plate K-127) mounted on 4″ Pipe Post with Pinnacle, Crossing Sign, Instrument Case and 11-Volt, 11-Watt Lamp Bulbs..... | B–8912 |
| | **Da** | **Two Unit Color Light Style "HC-5" Highway Crossing Signal,** Ref. D, with 31-Ohm Crossing Bell for operation on 10-11 Volts per Diagram "E"..... | B–8912 |

UNION SWITCH & SIGNAL CO.

## STYLE "HC-5" TWO UNIT COLOR LIGHT HIGHWAY CROSSING SIGNALS

(Continued)

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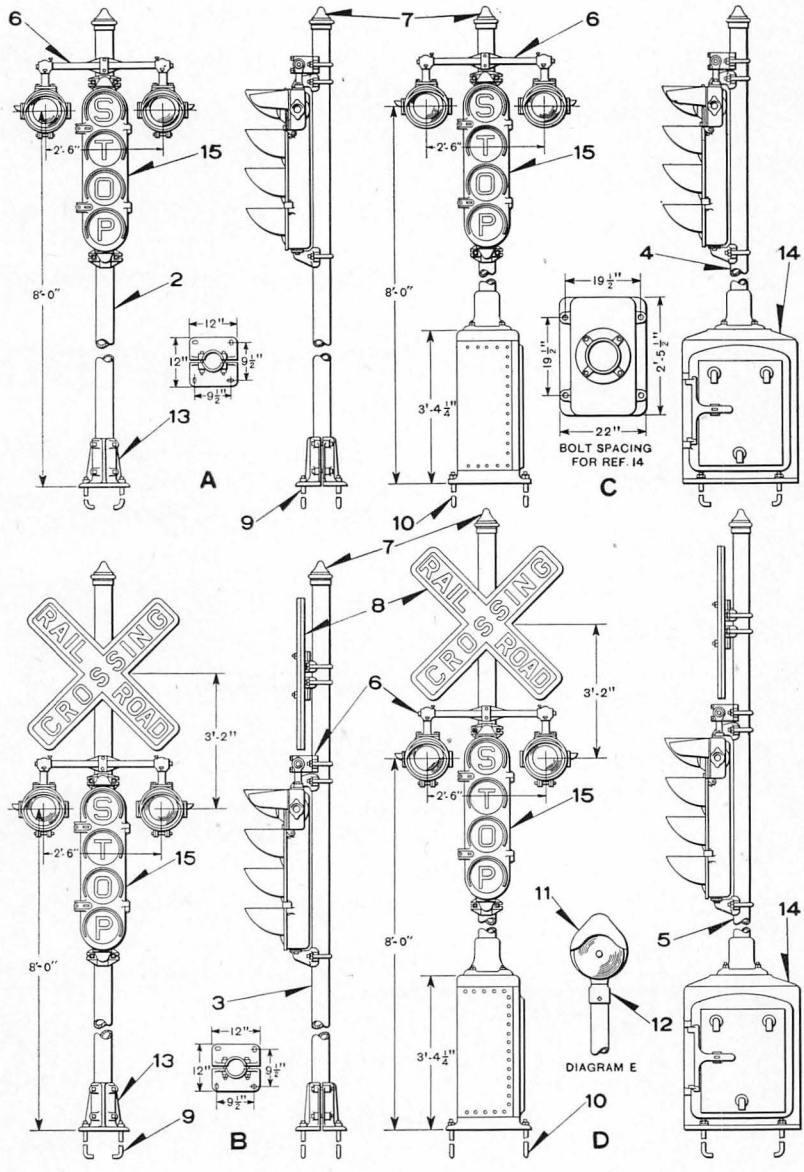
**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **149049** | **2** | **4″ Pipe Post, 9′ 9″ Long,** with Base and Hole Drilled for Wires for Ref. A and Aa | B–9893–147 |
| | **3** | **4″ Pipe Post, 13′ 1″ Long,** with Base and Hole Drilled for Wires for Refs. B and Ba | B–9893 |
| | **4** | **4″ Pipe Post, 6′ 4¾″ Long,** with Base and Hole Drilled for Wires for Refs. C and Ca | B–9893 |
| | **5** | **4″ Pipe Post, 9′ 8¾″ Long,** with Base and Hole Drilled for Wires for Refs. D and Da | B–9893 |
| | **6** | **Cross Arm with Two Lamp Units, Adapter, Cap and U-Bolts** (For details refer to Ref. B, Plate K-126) | B–12477 |
| **145739** | **7** | **Pinnacle** | B–8121–10 |
| | **8** | **Crossing Sign with Clamps and U-Bolts** (For details refer to Plate K-126) | C–5844–5 |
| **10478** | **9** | **Foundation Bolt, ¾″x18″,** with ¾″ Hex. Nut and ¾″ Plate Washer, for Refs. A and B | 7913–44 |
| **10276** | **10** | **Foundation Bolt, 1″x30″,** with 1″ Hex. Nut, for Refs. C and D | 7913–54 |
| | **11** | **Model "15-A" D. C. Crossing Bell,** Magnets 31-Ohms per pair, for operation on 10-11 Volts with Adapter Ref. 12 arranged for mounting on 4″ Pipe (See section "K" Catalog Plate K-80 for detail references) | C–8807–1 |
| **82254** | **12** | **Adapter** for mounting Crossing Bell on 4″ Pipe | C–6041–10 |
| **136947** | **13** | **Base** (Two Halves) with Bolts and Nuts | C–6634–7 |
| **68687** | **14** | **Instrument Case** (For details refer to Ref. A, Plate L-1135) | C–7589–6 |

PLATE K-121

UNION SWITCH & SIGNAL CO.




STYLE "HC-5" TWO UNIT COLOR LIGHT
HIGHWAY CROSSING SIGNALS

UNION SWITCH & SIGNAL CO.

## STYLE "HC-5" TWO UNIT COLOR LIGHT HIGHWAY CROSSING SIGNALS

Unless orders specify otherwise, all signals listed on this plate will be furnished with Lamp Units Refs. B and C, Plate K-127 and 11-Volt, 11-Watt Lamps; Signals Refs. C to Da with Instrument Cases per Ref. A, Plate L-1135 and Signals Refs. Aa, Ba, Ca and Da with 31-Ohm Bell for operation on 10-11 Volts.

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | **A** | **Two Unit Color Light Style "HC-5" Highway Crossing Signal with Style "HC-42" Illuminated Stop Sign,** (Units as shown on Refs. B and C, Plate K-127) mounted on 4″ Pipe Post, with Pinnacle, Foundation Bolts and 11-Volt, 11-Watt Lamp Bulbs... | B–8912 |
| | **Aa** | **Two Unit Color Light Style "HC-5" Highway Crossing Signal, Ref. A,** with 31-Ohm Crossing Bell for operation on 10-11 Volts per Diagram "E"..... | B–8912 |
| **156647** | **B** | **Two Unit Color Light Style "HC-5" Highway Crossing Signal with Style "HC-42" Illuminated Stop Sign,** (Units as shown on Refs. B and C, Plate K-127) mounted on 4″ Pipe Post with Crossing Sign, Pinnacle, Foundation Bolts and 11-Volt, 11-Watt Lamp Bulbs..... | B–8912–39 |
| | **Ba** | **Two Unit Color Light Style "HC-5" Highway Crossing Signal, Ref. B,** with 31-Ohm Crossing Bell for operation on 10-11 Volts per Diagram "E"..... | B–8912–39 |
| | **C** | **Two Unit Color Light Style "HC-5" Highway Crossing Signal with Style "HC-42" Illuminated Stop Sign,** (Units as shown on Refs. B and C, Plate K-127) mounted on 4″ Pipe Post with Pinnacle, Intrument Case, Foundation Bolts and 11-Volt, 11-Watt Lamp Bulbs..... | B–8912 |
| | **Ca** | **Two Unit Color Light Style "HC-5" Highway Crossing Signal, Ref. C,** with 31-Ohm Crossing Bell for operation on 10-11 Volts per Diagram "E"..... | B–8912 |
| | **D** | **Two Unit Color Light Style "HC-5" Highway Crossing Signal with Style "HC-42" Illuminated Stop Sign,** (Units as shown on Refs. B and C, Plate K-127) mounted on 4″ Pipe Post with Pinnacle, Crossing Sign, Instrument Case, Foundation Bolts and 11-Volt, 11-Watt Lamp Bulbs..... | B–8912 |

UNION SWITCH & SIGNAL CO.

## STYLE "HC-5" TWO UNIT COLOR LIGHT HIGHWAY CROSSING SIGNALS

(Continued)

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing References |
|---|---|---|---|
| | **Da** | **Two Unit Color Light Style "HC-5" Highway Crossing Signal, Ref. D,** with 31-Ohm Crossing Bell for operation on 10-11 Volts per Diagram "E" | B–8912 |
| | **2** | **4″ Pipe Post, 9′ 9″ Long,** with Base and Hole Drilled for Wires for Refs. A and Aa | B–9893 |
| **156546** | **3** | **4″ Pipe Post, 13′ 1″ Long,** with Base and Hole Drilled for Wires for Refs. B and Ba | B–9893–140 |
| | **4** | **4″ Pipe Post,6′ 4¾″ Long,** with Base and Hole Drilled for Wires for Refs. C and Ca | B–9893 |
| | **5** | **4″ Pipe Post, 9′ 8¾″ Long,** with Base and Hole Drilled for Wires for Ref. D and Da | B–9893 |
| | **6** | **Cross Arm with Lamp Units, Adapter, Cap and U-Bolts** (For details refer to Ref. Ba, Plate K-126) | B–12477 |
| **145739** | **7** | **Pinnacle** | B–8121–10 |
| | **8** | **Crossing Sign with Clamps and U-Bolts** (For details refer to Plate K-126) | C–5844–5 |
| **10478** | **9** | **Foundation Bolt, ¾″x18″,** with ¾″ Hex. Nut and ¾″ Plate Washer, for Refs. A and B | 7913–44 |
| **10276** | **10** | **Foundation Bolt, 1″x30″,** with 1″ Hex. Nut for Refs. C and D | 7913–54 |
| | **11** | **Model "15-A" D. C. Crossing Bell, Magnets** 31-Ohms per pair for operation on 10-11 Volts with Adapter Ref. 12 arranged for mounting on 4″ Pipe (See section "K" Catalog, Plate K-80 for detail references) | C–8807–1 |
| **82254** | **12** | **Adapter** for mounting Crossing Bell on 4″ Pipe | C–6041–10 |

UNION SWITCH & SIGNAL CO.

## STYLE "HC-5" TWO UNIT COLOR LIGHT HIGHWAY CROSSING SIGNALS

(Continued)

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **136947** | **13** | **Base** (Two Halves) with Bolts and Nuts..... | C–6634–7 |
| **68687** | **14** | **Instrument Case** (For details refer to Ref. A, Plate L-1135)..... | C–7589–6 |
| **148922** | **15** | **Style "HC-42" Illuminated Stop Sign with Red Lenses** (For details refer to Plate K-130)..... | C–9208–1 |

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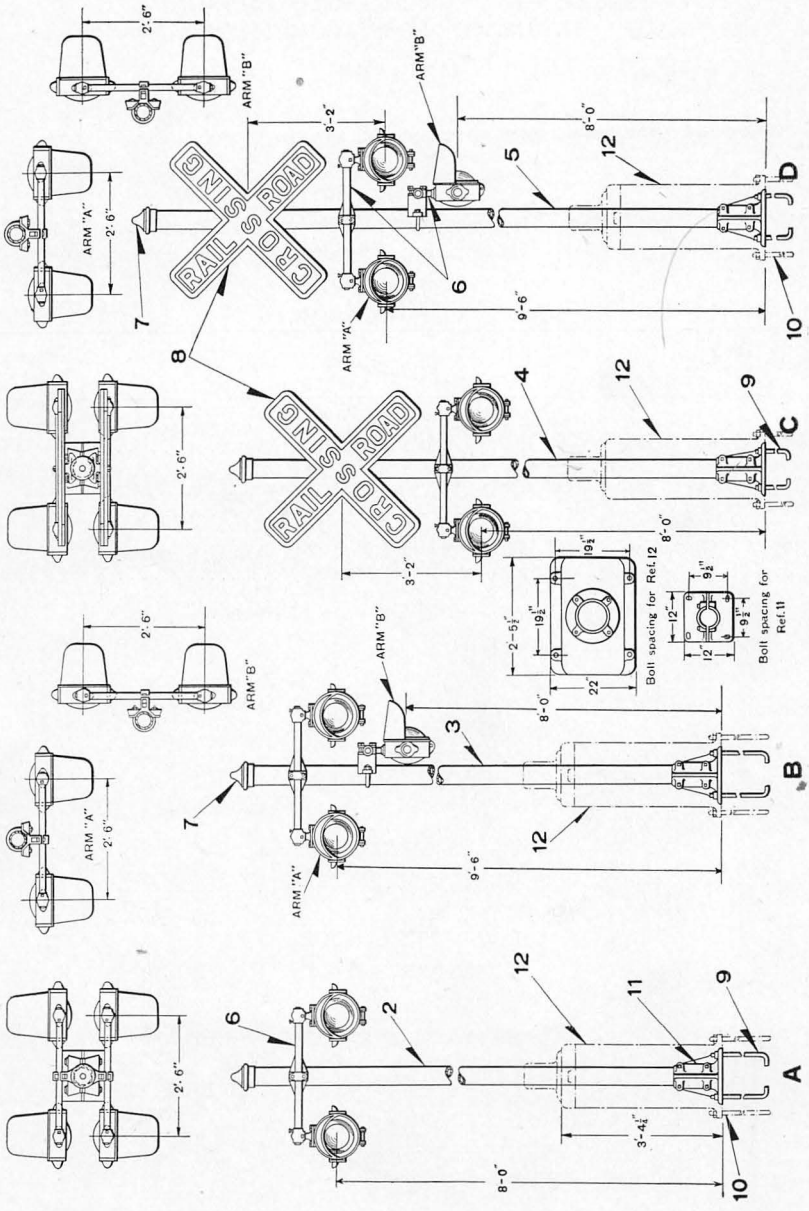


STYLE "HC-5" FOUR UNIT COLOR LIGHT
HIGHWAY CROSSING SIGNALS

UNION SWITCH & SIGNAL CO.

## STYLE "HC-5" FOUR UNIT COLOR LIGHT HIGHWAY CROSSING SIGNALS

Unless orders specify otherwise, all signals listed on this plate will be furnished with Lamp Units Ref. A, Plate K-127 and 11-Volt, 11-Watt Lamps and Signals Refs. Aa, Ba, Ca and Da with Instrument Cases per Ref. A, Plate L-1135.

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | **A** | **Four Unit Color Light Style "HC-5" Highway Crossing Signal** (Units as shown on Ref. A, Plate K-127) mounted on 4″ Pipe Post with Pinnacle, Base (as shown in full lines), Foundation Bolts and 11-Volt, 11-Watt Lamp Bulbs | B–8912 |
| | **Aa** | **Four Unit Color Light Style "HC-5" Highway Crossing Signal** (Units as shown on Ref. A, Plate K-127) mounted on 4″ Pipe Post with Pinnacle, Instrument Case (as shown in dot and dash lines), Foundation Bolts and 11-Volt, 11-Watt Lamp Bulbs | B–8912 |
| | **B** | **Four Unit Color Light Style "HC-5" Highway Crossing Signal** (Units as shown on Ref. A, Plate K-127) mounted on 4″ Pipe Post with Pinnacle, Base (as shown in full lines), Foundation Bolts and 11-Volt, 11-Watt Lamp Bulbs | B–8912 |
| | **Ba** | **Four Unit Color Light Style "HC-5" Highway Crossing Signal** (Units as shown on Ref. A, Plate K-127) mounted on 4″ Pipe Post with Pinnacle, Instrument Case (as shown in dot and dash lines), Foundation Bolts and 11-Volt, 11-Watt Lamp Bulbs | B–8912 |
| | **C** | **Four Unit Color Light Style "HC-5" Highway Crossing Signal** (Units as shown on Ref. A, Plate K-127) mounted on 4″ Pipe Post with Pinnacle, Base (as shown in full lines), Crossing Sign, Foundation Bolts and 11-Volt, 11-Watt Lamp Bulbs | B–8912 |
| | **Ca** | **Four Unit Color Light Style "HC-5" Highway Crossing Signal** (Units as shown on Ref. A, Plate K-127) mounted on 4″ Pipe Post with Pinnacle, Instrument Case (as shown in dot and dash lines), Crossing Sign, Foundation Bolts and 11-Volt, 11-Watt Lamp Bulbs | B–8912 |

UNION SWITCH & SIGNAL CO.

## STYLE "HC-5" FOUR UNIT COLOR LIGHT HIGHWAY CROSSING SIGNALS

(Continued)

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | **D** | **Four Unit Color Light Style "HC-5" Highway Crossing Signal** (Units as shown on Ref. A, Plate K-127) mounted on 4″ Pipe Post with Pinnacle, Base (as shown in full lines), Crossing Sign, Foundation Bolts and 11-Volt, 11-Watt Lamp Bulbs..... | B–8912 |
| | **Da** | **Four Unit Color Light Style "HC-5" Highway Crossing Signal** (Units as shown on Ref. A, Plate K-127) mounted on 4″ Pipe Post with Pinnacle, Instrument Case (as shown in dot and dash lines), Crossing Sign, Foundation Bolts and 11-Volt, 11-Watt Lamp Bulbs..... | B–8912 |
| | **2** | **4″ Pipe Post, 9′ 9″ Long,** with Base and Holes drilled for Wires for Ref. A..... | B–9893 |
| | **2a** | **4″ Pipe Post, 6′ 4¾″ long,** with Base and Holes drilled for Wires for Ref. Aa..... | B–9893 |
| | **3** | **4″ Pipe Post, 11′ 3″ long,** with Base and Holes drilled for Wires for Ref. B..... | B–9893 |
| | **3a** | **4″ Pipe Post, 7′ 10¾″ long** with Base and Holes drilled for Wires for Ref. Ba..... | B–9893 |
| | **4** | **4″ Pipe Post, 13′ 1″ long,** with Base and Holes drilled for Wires for Ref. C..... | B–9893 |
| | **4a** | **4″ Pipe Post, 9′ 8¾″ long,** with Base and Holes drilled for Wires for Ref. Ca..... | B–9893 |
| | **5** | **4″ Pipe Post, 14′ 7″ long,** with Base and Holes drilled for Wires for Ref. D..... | B–9893 |
| | **5a** | **4″ Pipe Post, 11′ 2¾″ long,** with Base and Holes drilled for Wires for Ref. Da..... | B–9893 |
| | **6** | **Cross Arm with Lamp Units, Adapter, Cap and U-Bolts** (For details refer to Ref. B, Plate K-126)... | B–12477 |

UNION SWITCH & SIGNAL CO.

## STYLE "HC-5" FOUR UNIT COLOR LIGHT HIGHWAY CROSSING SIGNALS

(Continued)

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **145739** | **7** | **Pinnacle** | B–8121–10 |
| | 8 | **Crossing Sign with Clamps and U-Bolts** (For details refer to Plate K-126) | C–5844–5 |
| **10478** | **9** | **Foundation Bolt, ¾″x18″** with ¾″ Hex. Nut and ¾″ Plate Washer for Refs. A, B, C and D | 7913–44 |
| **10276** | **10** | **Foundation Bolt, 1″x30″** with 1″ Hex. Nut, for Refs. Aa, Ba, Ca and Da | 7913–54 |
| **136947** | **11** | **Base (Two Halves) with Bolts and Nuts** | C–6634–7 |
| **68687** | **12** | **Instrument Case** (For details refer to Ref. A, Plate L-1135) | C–7589–6 |

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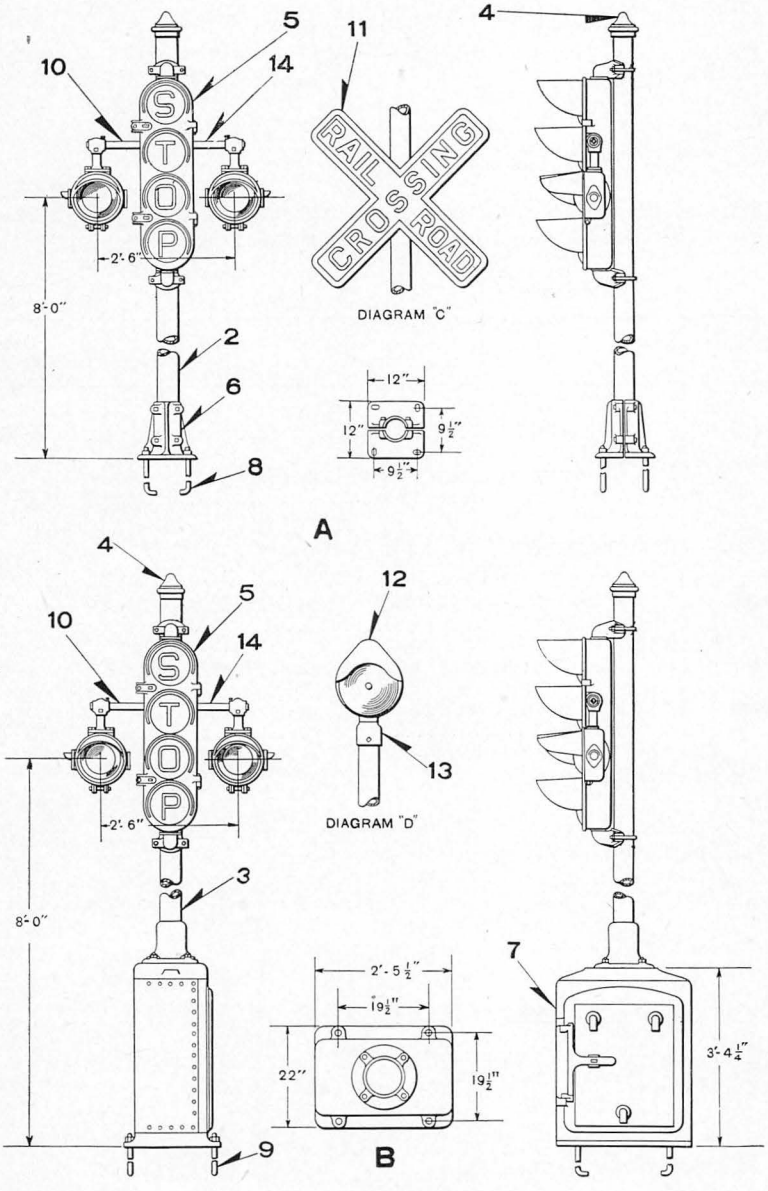


STYLE "HC-5" TWO UNIT COLOR LIGHT
HIGHWAY CROSSING SIGNALS

UNION SWITCH & SIGNAL CO.

## STYLE "HC-5" TWO UNIT COLOR LIGHT HIGHWAY CROSSING SIGNALS

Unless orders specify otherwise, all signals listed on this plate will be furnished with Lamp Units Refs. B and C, Plate K-127 and 11-Volt, 11-Watt Lamps; Signals Refs. B, Ba, Bb and Bc, with Instrument Cases per Ref. A, Plate L-1135 and Signals Refs. Ab, Ac, Bb and Bc, with 31-Ohm Bell for operation on 10-11 Volts.

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | A | **Two Unit Color Light Style "HC-5" Highway Crossing Signal with Style "HC-42" Illuminated Stop Sign,** (Units as shown on Plate K-127) mounted on 4″ Pipe Post with Pinnacle, Foundation Bolts and 11-Volt, 11-Watt Lamp Bulbs..... | B–8912 |
| | Aa | **Two Unit Color Light Style "HC-5" Highway Crossing Signal,** Ref. A with Crossing Sign per Diagram "C"..... | B–8912 |
| | Ab | **Two Unit Color Light Style "HC-5" Highway Crossing Signal,** Ref. A with 31-Ohm Crossing Bell for operation on 10-11 Volts per Diagram "D"..... | B–8912 |
| | Ac | **Two Unit Color Light Style "HC-5" Highway Crossing Signal,** Ref. A, with Crossing Sign per Diagram "C" and 31-Ohm Crossing Bell for operation on 10-11 Volts per Diagram "D"..... | B–8912 |
| | B | **Two Unit Color Light Style "HC-5" Highway Crossing Signal with Style "HC-42" Illuminated Stop Sign,** (Units as shown on Plate K-127) mounted on 4″ Pipe Post with Pinnacle, Instrument Case, Foundation Bolts and 11-Volt, 11-Watt Lamp Bulbs..... | B–8912 |
| | Ba | **Two Unit Color Light Style "HC-5" Highway Crossing Signal,** Ref. B with Crossing Sign per Diagram "C". | B–8912 |
| | Bb | **Two Unit Color Light Style "HC-5" Highway Crossing Signal,** Ref. B with 31-Ohm Crossing Bell for operation on 10-11 Volts per Diagram "D"..... | B–8912 |
| | Bc | **Two Unit Color Light Style "HC-5" Highway Crossing Signal,** Ref. B, with Crossing Sign per Diagram "C" and 31-Ohm Crossing Bell for operation on 10-11 Volts per Diagram "D" ..... | B–8912 |

UNION SWITCH & SIGNAL CO.

## STYLE "HC-5" TWO UNIT COLOR LIGHT HIGHWAY CROSSING SIGNALS

(Continued)

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | 2 | **4″ Pipe Post, 11′ 0″ long,** with Base and Hole Drilled for Wires for Ref. A and Ab | B–9893 |
| | 2a | **4″ Pipe Post, 13′ 1″ long,** with Base and Hole Drilled for Wires for Ref. Aa and Ac | B–9893 |
| | 3 | **4″ Pipe Post, 7′ 7¾″ long,** with Base and Hole Drilled for Wires for Refs. B and Bb | B–9893 |
| | 3a | **4″ Pipe Post, 9′ 8¾″ long,** with Base and Hole Drilled for Wires for Refs. Ba and Bc | B–9893 |
| **145739** | **4** | **Pinnacle** | B–8121–10 |
| **152298** | **5** | **Style "HC-42" Illuminated Stop Sign** (For details refer to Ref. Aa, Plate K-130) | C–9208–1 |
| **136947** | **6** | **Base (Two Halves) with Bolts and Nuts** | C–6634–7 |
| **68687** | **7** | **Instrument Case** (For details refer to Ref. A, Plate L-1135) | C–7589–6 |
| **10478** | **8** | **Foundation Bolt, ¾″x18″** with ¾″ Hex. Nut and ¾″ Plate Washer, for Ref. A | 7913–44 |
| **10276** | **9** | **Foundation Bolt, 1″x30″** with 1″ Hex. Nut, for Ref. B. | 7913–54 |
| | **10** | **Cross Arm with Lamp Unit,** Ref. B, Plate K-127 (For details refer to Ref. C, Plate K-126) | B–12477 |
| | **11** | **Crossing Sign with Clamp and U-Bolts** (For details refer to Plate K-126) | C–5844–5 |
| | **12** | **Model "15-A" D.C. Crossing Bell, Magnets 31-Ohms** per pair for operation on 10-11 Volts with Adapter Ref. 13 arranged for mounting on 4″ Pipe (See section "K" Catalog Plate K-80 for detail references) | C–8807–1 |

UNION SWITCH & SIGNAL CO.

STYLE "HC-5" TWO UNIT COLOR LIGHT
HIGHWAY CROSSING SIGNALS

(Continued)

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Deference |
|---|---|---|---|
| **82254** | **13** | **Adapter,** for mounting Crossing Bell on 4″ Pipe ..... | C–6041–10 |
| | **14** | **Cross Arm with Lamp Unit,** Ref. C, Plate K-127 (For details refer to Ref. D, Plate K-126)..... | B–12477 |

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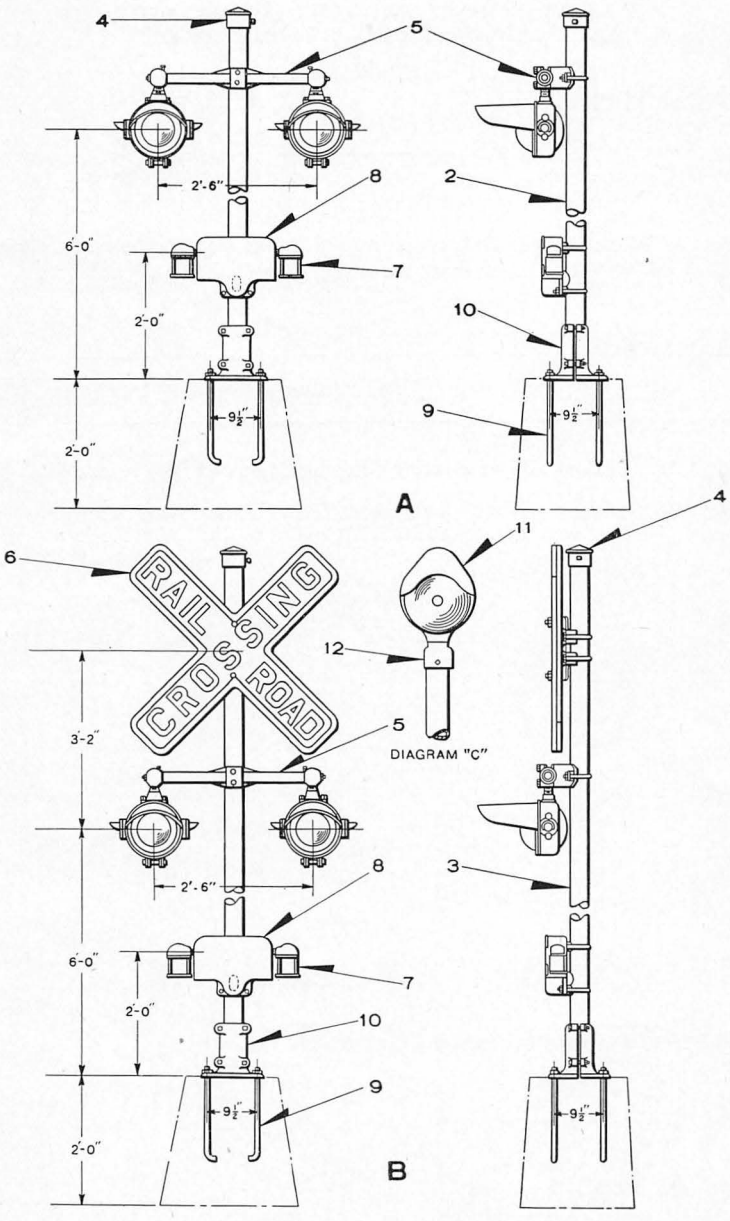


STYLE "HC-5" TWO UNIT COLOR LIGHT
HIGHWAY CROSSING SIGNALS

UNION SWITCH & SIGNAL CO.

## STYLE "HC-5" TWO UNIT COLOR LIGHT HIGHWAY CROSSING SIGNALS

Unless orders specify otherwise, all signals listed on this plate will be furnished with Lamp Units Ref. A, Plate K-127 and 11-Volt, 11-Watt Lamps and Signals Refs. Aa and Ba with 31-Ohm Bell for operation on 10-11 Volts.

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | **A** | **Two Unit Color Light Style "HC-5" Highway Crossing Signal,** for center of street location (Units as shown on Ref. A, Plate K-127) mounted on 4″ Pipe Post with Pinnacle, Pilot Lights, Terminal Box, Foundation Bolts and 11-Volt, 11-Watt Lamp Bulbs | B–8912 |
| | **Aa** | **Two Unit Color Light Style "HC-5" Highway Crossing Signal,** for center of street location, Ref. A with 31-Ohm Crossing Bell for operation on 10-11 Volts per Diagram "C" | B–8912 |
| | **B** | **Two Unit Color Light Style "HC-5" Highway Crossing Signal,** for center of street location (Units as shown on Ref. A, Plate K-127) mounted on 4″ Pipe Post with Pinnacle, Pilot Lights, Terminal Box, Crossing Sign, Foundation Bolts and 11-Volt, 11-Watt Lamp Bulbs | B–8912 |
| | **Ba** | **Two Unit Color Light Style "HC-5" Highway Crossing Signal,** for center of street location, Ref. B, with 31-Ohm Crossing Bell for operation on 10-11 Volts per Diagram "C" | B–8912 |
| | **2** | **4″ Pipe Post, 7′ 9″ long,** with Base and Hole Drilled for Wires for Refs. A and Aa | B–9893 |
| | **3** | **4″ Pipe Post, 11′ 1″ long,** with Base and Hole Drilled for Wires for Refs. B and Ba | B–9893 |
| **145739** | **4** | **Pinnacle** | B–8121–10 |
| | **5** | **Cross Arm with Lamp Units, Adapter, Cap and U-Bolts** (For details refer to Ref. B, Plate K-126) | B–12477 |
| | **6** | **Crossing Sign with Clamps and U-Bolts** (For details refer to Plate K-126) | C–5844–5 |

UNION SWITCH & SIGNAL CO.

## STYLE "HC-5" TWO UNIT COLOR LIGHT HIGHWAY CROSSING SIGNALS

(Continued)

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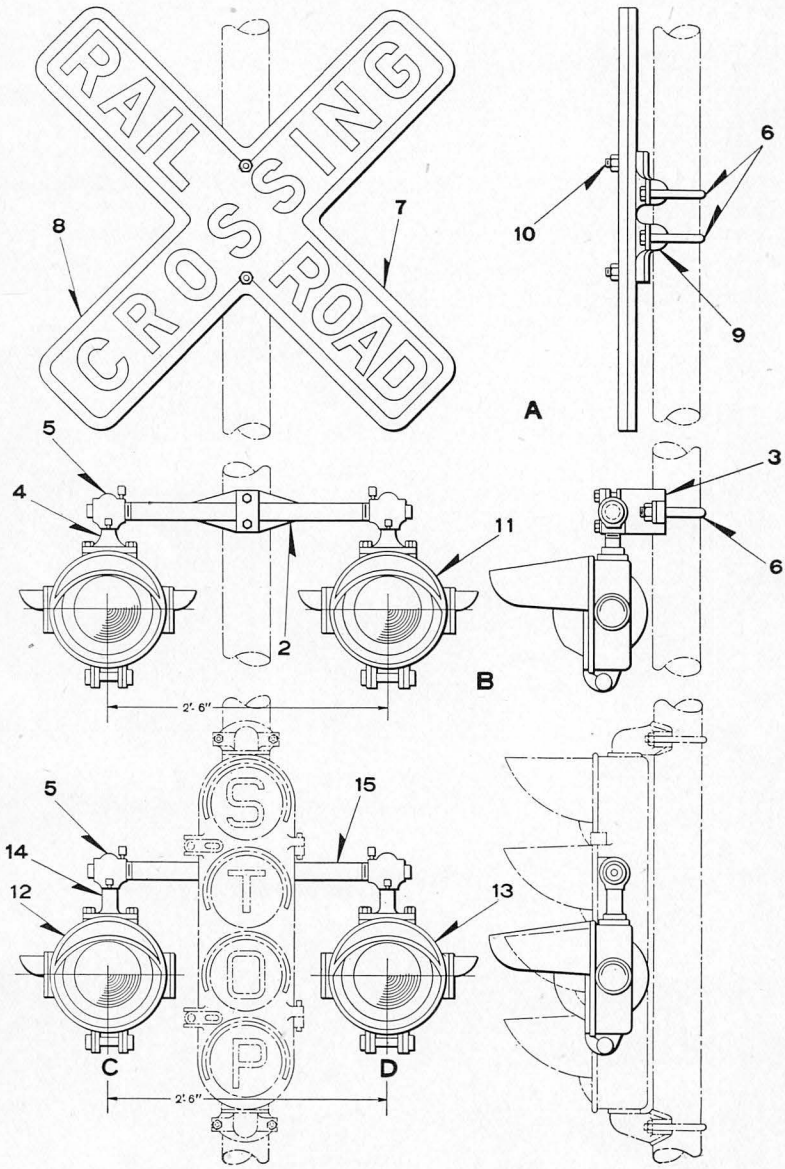
**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **153372** | **7** | **Style "HP-10" Pilot Light** (For details refer to Plate K-137) | B–12663–1 |
| **153890** | **8** | **Cable Terminal Box** (For details refer to Plate K-137) | C–6676–16 |
| **10478** | **9** | **Foundation Bolt, ¾"x18"**, with ¾" Hex. Nut and ¾" Plate Washer | 7913–44 |
| **136947** | **10** | **Base (Two Halves) with Bolts and Nuts** | C–6634–7 |
| | **11** | **Model "15-A" D.C. Crossing Bell, Magnets 31-Ohms** per pair for operation on 10-11 Volts with Adapter Ref. 12 arranged for mounting on 4" Pipe (See section "K" Catalog Plate K-80 for detail references) | C–8807–1 |
| **82254** | **12** | **Adapter for mounting Crossing Bell** on 4" Pipe | C–6041–10 |

PLATE K-126

UNION SWITCH & SIGNAL CO.




CROSSING ARMS, CROSSING SIGNS AND MOUNTING DETAILS

UNION SWITCH & SIGNAL CO.

# STYLE "HC-5" HIGHWAY CROSSING SIGNAL
## DETAIL PARTS
## CROSSING ARMS, CROSSING SIGNS AND MOUNTING DETAILS

(For Details of Lamp Unit Refer to Plate K-127)

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | A | **Crossing Sign with Clamps and U-Bolts** for 4″ Pipe (A.R.A. Standard) | C–5844–5 |
| | B | **Cross Arm for 4″ Pipe with Lamp Units, Ref. A, Plate K-127, Adapter, Cap and U-Bolts** as shown | B–12477 |
| | Ba | **Cross Arm for 4″ Pipe with Lamp Units, Refs. B and C, Plate K-127, Adapter, Cap and U-Bolts** used with Style "HC-5" Highway Crossing Signal having Illuminated Stop Sign as shown on Plates K-121 | B–12477 |
| | C | **Cross Arm with Lamp Units, Ref. B, Plate K-127** (For application to Signals shown on Plate K-123) | B–12477 |
| | D | **Cross Arm with Lamp Units, Ref. C, Plate K-127** (For application to Signals shown on Plate K-123) | B–12477 |
| **148015** | **2** | **Lamp Supporting Arm** for Refs. B and Ba | B–12477–6 |
| **121451** | **3** | **Adapter and Cap** | C–8964–20 |
| **130913** | **4** | **Lamp Unit Support** (Used when Illuminated Stop Sign is not used) | C–8964–27 |
| **148916** | **5** | **Tee, 1¼″x1¼″x1½″** M. I. Black Reducing with two ½″x¾″ Sq. Hd. Cup Pt. Iron Set Screws | C–8964–30 |
| **60115** | **6** | **U-Bolt,** ½″ with ½″ Hex. Nuts and ½″ Plate Washers | 8782–108 |
| **137021** | **7** | **Crossing Sign** A.R.A. Std. (Lettered "Railroad") C. I. front painted White, border and letters Black. | C–5844–5 |
| **137146** | **8** | **Crossing Sign** A.R.A. Std. (Lettered "Crossing") C. I. front painted White, border and letters Black. | C–5844–5 |
| **137045** | **9** | **Adapter Clamp** | C–8964–42 |

UNION SWITCH & SIGNAL CO.

## STYLE "HC-5" HIGHWAY CROSSING SIGNAL
## DETAIL PARTS
## CROSSING ARMS, CROSSING SIGNS AND MOUNTING DETAILS

(Continued)

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | **10** | **Bolt,** 5/8"x3 3/4" Sq. Hd. with 5/8" Hex. Nut. | |
| | **11** | **Lamp Unit** (For details refer to Ref. A, Plate K-127) | |
| | **12** | **Lamp Unit** (For details refer to Ref. B, Plate K-127) | |
| | **13** | **Lamp Unit** (For details refer to Ref. C, Plate K-127) | |
| **149058** | **14** | **Lamp Unit Support** (Used with Illuminated Stop Sign) | C–9207–4 |
| **152315** | **15** | **Lamp Supporting Arm** for Refs. C and D..... | B–10919–3 |

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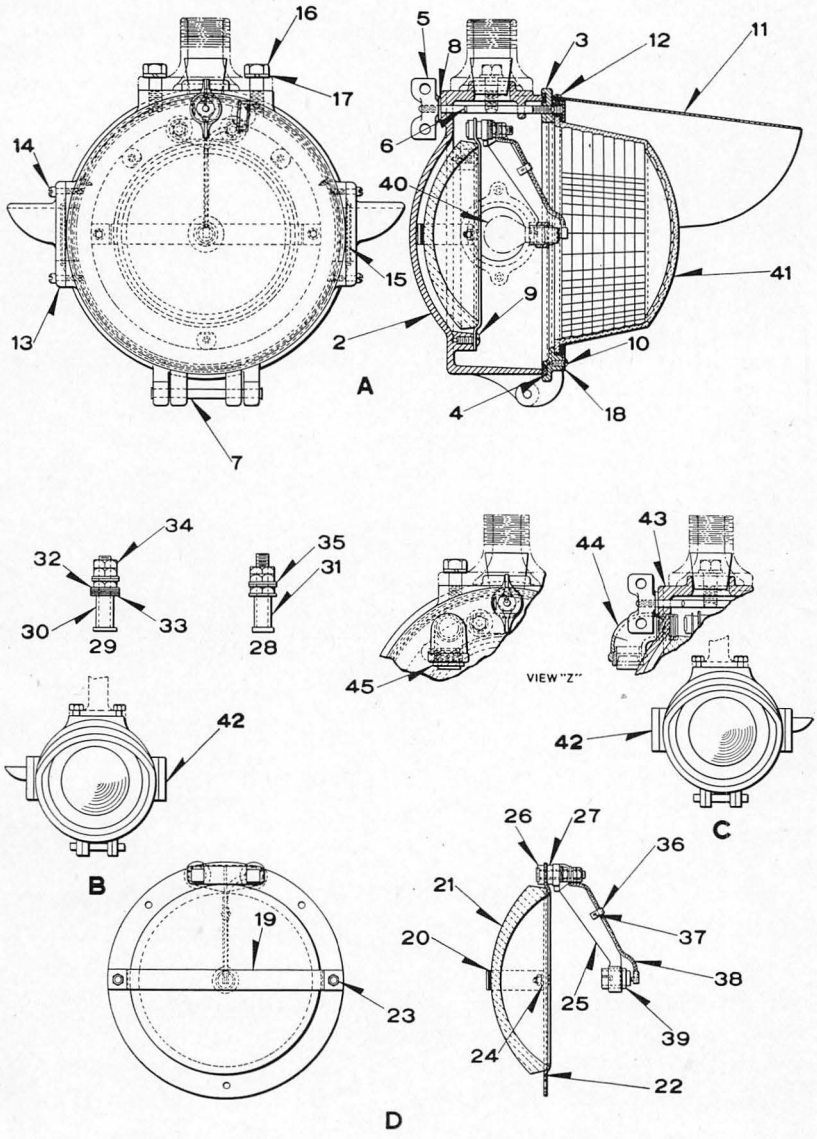


STYLE "HC-5" HIGHWAY CROSSING SIGNALS
DETAIL PARTS
LAMP UNITS WITH 9" LENS

UNION SWITCH & SIGNAL CO.

# STYLE "HC-5" HIGHWAY CROSSING SIGNALS
# DETAIL PARTS

## LAMP UNITS WITH 9″ LENS

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **147923** | **A** | **Style "HC-5" Lamp Unit** with 9″ Red Cover Glass and Clear Side Lights (Without Lamp Bulb Ref. 40) for use with Signals shown on Plates K-120, K-122 and K-124) | C–8965–32 |
| **150179** | **Aa** | **Style "HC-5" Lamp Unit** with 9″ Red Cover Glass (Without Side Lights) With Wire inlet in back of Case per view "Z," (Without Lamp Bulb Ref. 40) for use with Signals shown on Plates K-120, K-122 and K-124) | C–8965–35 |
| **149659** | **B** | **Style "HC-5" Lamp Unit** with 9″ Red Cover Glass and L. H. Clear Side Light (Without Lamp Bulb Ref. 40) for use with Signals shown on Plates K-121 and K-123 | C–8965–32 |
| **149658** | **C** | **Style "HC-5" Lamp Unit** with 9″ Red Cover Glass and R. H. Clear Side Light (Without Lamp Bulb Ref. 40) for use with Signals shown on Plates K-121 and K-123 | C–8965–32 |
| **148058** | **D** | **Reflector,** complete as shown for Style "HC-5" Color Light Highway Crossing Signal Unit | C–8964–63 |
| **147785** | **2** | **Case for Style "HC-5" Lamp Unit,** Refs. A, Aa, B and C (Inc. 1-2a, 1-3, 1-4, 1-5, 1-6, 1-7 and 1-8) | C–8965–32 |
| **147779** | **2a** | **Case,** only for Style "HC-5" Lamp Unit for Ref. 2 | C–8964–60 |
| **147784** | **3** | **Lens Support** only for Refs. A, Aa, B and C | C–8964–61 |
| **146038** | **4** | **Gasket** for Ref. 3 | 8078–717 |
| **148663** | **5** | **Wing Nut with Stud** for Refs. A, Aa, B and C | 8331–73 |
| | **6** | **Cotter,** $\frac{1}{16}$″x$\frac{1}{2}$″ (Cad. Pl.) for Ref. 5. | |
| **145984** | **7** | **Pin** | B–10206–1 |

PLATE K-127

UNION SWITCH & SIGNAL CO.

STYLE "HC-5" HIGHWAY CROSSING SIGNALS
DETAIL PARTS
LAMP UNITS WITH 9" LENS
(Continued)

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **147448** | **8** | **Washer** | 8078–422 |
| | **9** | **Machine Screw, No. 14-24x1/2"** Rd. Hd. S. (Cad. Pl.) | |
| | **10** | **Machine Screw, No. 10-30x3/8"** Rd. Hd. S. (Cad. Pl.) | |
| **147975** | **11** | **Hood** | C–8964–62 |
| | **12** | **Machine Screw, No. 10-30x1/4"** Rd. Hd. S. (Cad. Pl.) | |
| **124375** | **13** | **Hood** | C–8964–22 |
| | **14** | **Machine Screw, No. 10-30x5/8"** Fil. Hd. S. (Cad. Pl.) for attaching Refs. 13 and 42 to Case. | |
| **111888** | **15** | **Glass Shield (Clear)** | 8163–222 |
| | **16** | **Tap Bolt, 1/2"x1 1/4"** Hex. Head (Cad. Pl.) | |
| | **17** | **Lock Washer, 1/2"** Plain Steel (3/16"x3/32") (Cad. Pl.) for Ref. 16. | |
| **147963** | **18** | **Lens Ring** for Refs. A, Aa, B and C | 7436–138 |
| **148065** | **19** | **Strap** | 11893–376 |
| **147964** | **20** | **Gasket** | 8078–1409 |
| **147982** | **21** | **Reflector** | B–12652–6 |
| **147962** | **22** | **Ring** | 7436–137 |
| **93420** | **23** | **Nut** | 8265–128 |
| | **24** | **Lock Washer, 1/4"** Plain Steel (1/16"x1/16") (Cad. Pl.). | |
| **147974** | **25** | **Lamp Socket Support** | C–8964–62 |
| **148723** | **26** | **Terminal Board** | 9968–835 |

UNION SWITCH & SIGNAL CO.

STYLE "HC-5" HIGHWAY CROSSING SIGNALS
DETAIL PARTS
LAMP UNITS WITH 9" LENS
(Continued)

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**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **152817** | **27** | **Terminal Board** | 9968–889 |
| | **28** | **Terminal Post with Nuts and Washers** (Inc. 1-29a, 1-31, 1-33, 3-34 and 2-35) | 12451 |
| | **29** | **Terminal Post with Nuts and Washers** (Inc. 1-29a, 1-30, 4-32, 1-33, 3-34 and 2-35) | 12451 |
| **114805** | **29a** | **Terminal Post only** for Refs. 28 and 29 | 8094–706 |
| **52792** | **30** | **Ins. Bushing** | B–10270–1 |
| **75670** | **31** | **Ins. Bushing** | B–10270–1 |
| **9468** | **32** | **Ins. Washer** | 8078–76 |
| **29104** | **33** | **Washer** | 7828–138 |
| **29103** | **34** | **Nut** | 8109–194 |
| **29102** | **35** | **Washer** | 7828–139 |
| **147988** | **36** | **Clip** | 11893–393 |
| **54920** | **37** | **Rivet** | 10301–1 |
| **31094** | **38** | **Lead** | B–9991–1 |
| **131611** | **39** | **Lamp Socket** | C–8665–2 |
| **145877** | **40** | **Lamp Bulb,** 11-Volt, 11-Watt, Single Filament | B–12409–18 |
| **151138** | **40a** | **Lamp Bulb,** 10-Volt, 18-Watt, Single Filament | B–12409–18 |
| **151167** | **40b** | **Lamp Bulb,** 10-Volt, 18-Watt, Double Filament | B–12409–18 |
| **146930** | **40c** | **Lamp Bulb,** 10-Volt, 10-Watt, Single Filament | B–12409–18 |

PLATE K-127

UNION SWITCH & SIGNAL CO.

STYLE "HC-5" HIGHWAY CROSSING SIGNALS
DETAIL PARTS
LAMP UNITS WITH 9″ LENS
(Continued)

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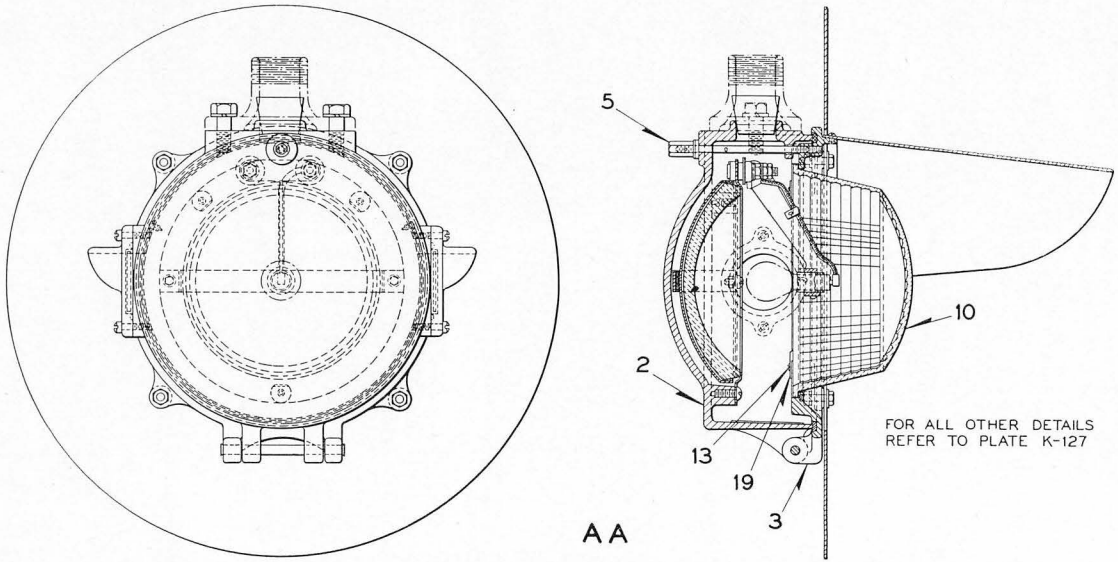
**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **142967** | **40d** | **Lamp Bulb,** 8-Volt, 10-Watt, Single Filament..... | B–12409–18 |
| **148970** | **40e** | **Lamp Bulb,** 10-Volt. 5-Watt, Single Filament..... | B–12409–18 |
| **147869** | **41** | **Red Cover Glass,** 9″ diameter..... | B–8276–42 |
| **125749** | **42** | **Cover** (Used when no side lights are required) for Style "HC-5" Lamp Unit..... | C–8964–22 |
| **150178** | **43** | **Case with Lens Support, Wing Nut and Wire Outlet,** for Style "HC-5" Lamp Unit for Ref. Aa..... | C–8965–35 |
| **150147** | **43a** | **Case only,** for Ref. 43 for Style "HC-5" Lamp Unit. | C–8964–60 |
| **150176** | **44** | **Wire Outlet**..... | C–8964–73 |
| | **45** | **¾″ T. and B. Chase Nipple.** | |




STYLE "HC-5" LAMP UNIT WITH 8 3/8" DIAMETER COVER GLASS
(160° SPREADLITE)

UNION SWITCH & SIGNAL CO.

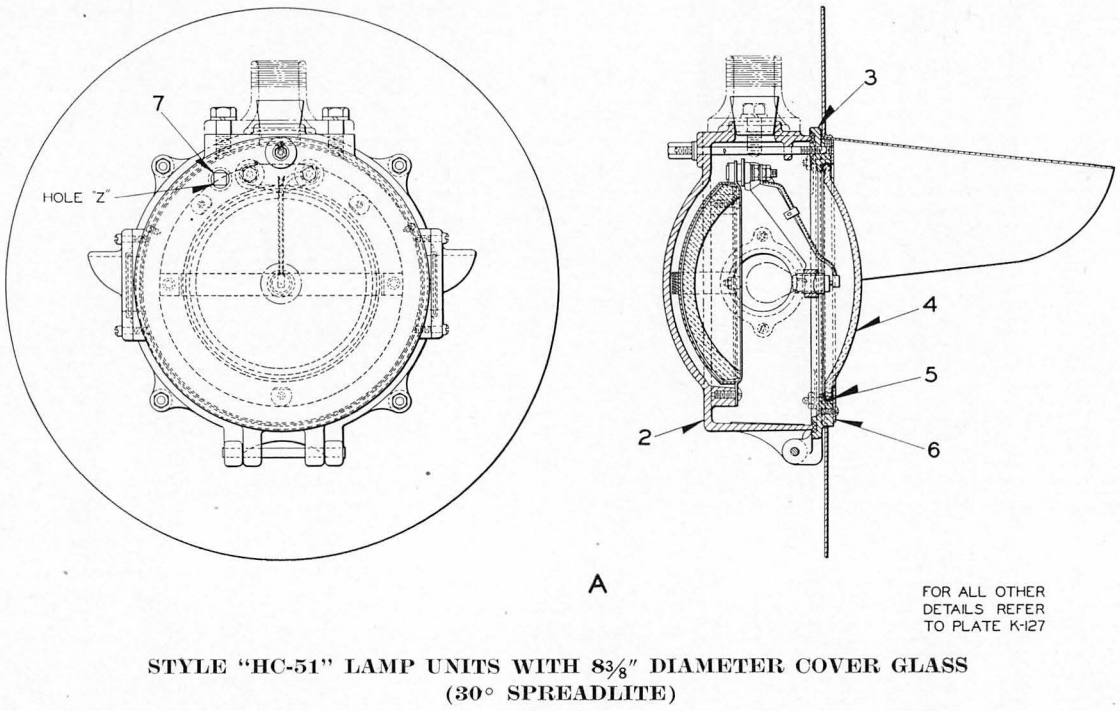
## HIGHWAY GRADE CROSSING SIGNALS
## DETAIL PARTS

### STYLE "HC-5" LAMP UNIT WITH 8⅜" DIAMETER COVER GLASS (160° SPREADLITE)

If Units with special locking stud shown in View "X" on Plate K-127 are required orders should so state.

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **181227** | **AA** | **Style "HC-5" Lamp Unit** Ref. A, with 8⅜" Diameter Red Cover Glass (160° Spreadlite) and 20" Diameter Background (Without Lamp Bulb) | C–8965–36 |
| **151215** | **A** | **Style "HC-5" Lamp Unit,** with 8⅜" Diameter Red Cover Glass (160° Spreadlite) (Without Lamp Bulb and Background) | C–8965–36 |
| **151214** | **2** | **Case Complete for Style "HC-5" Lamp Unit** (Inc. 1-3 and 1-5 of this Plate and 1-2a, 1-6, 1-7, 1-8 and 1-46 of Plate K-127) | C–8965–36 |
| | **3a** | **Door** with Gasket Ref. 4 of Plate K-127 | C–8964–66 |
| **177880** | **5** | **Locking Stud Complete** (fits 14-24 hex. nut wrench) | 8114–803 |
| **151534** | **10** | **Red Cover Glass,** 8⅜" diameter (160° Spreadlite) | B–8276–50 |
| | **13** | **Machine Screw,** No. 10-30x¼" Rd. Hd. Br. | |
| **76735** | **19** | **Clip** | 11893–31 |
| | | For all other details refer to Plate K-127. | |




A

FOR ALL OTHER DETAILS REFER TO PLATE K-127

**STYLE "HC-51" LAMP UNITS WITH 8⅜" DIAMETER COVER GLASS (30° SPREADLITE)**

UNION SWITCH & SIGNAL CO.

## HIGHWAY GRADE CROSSING SIGNALS

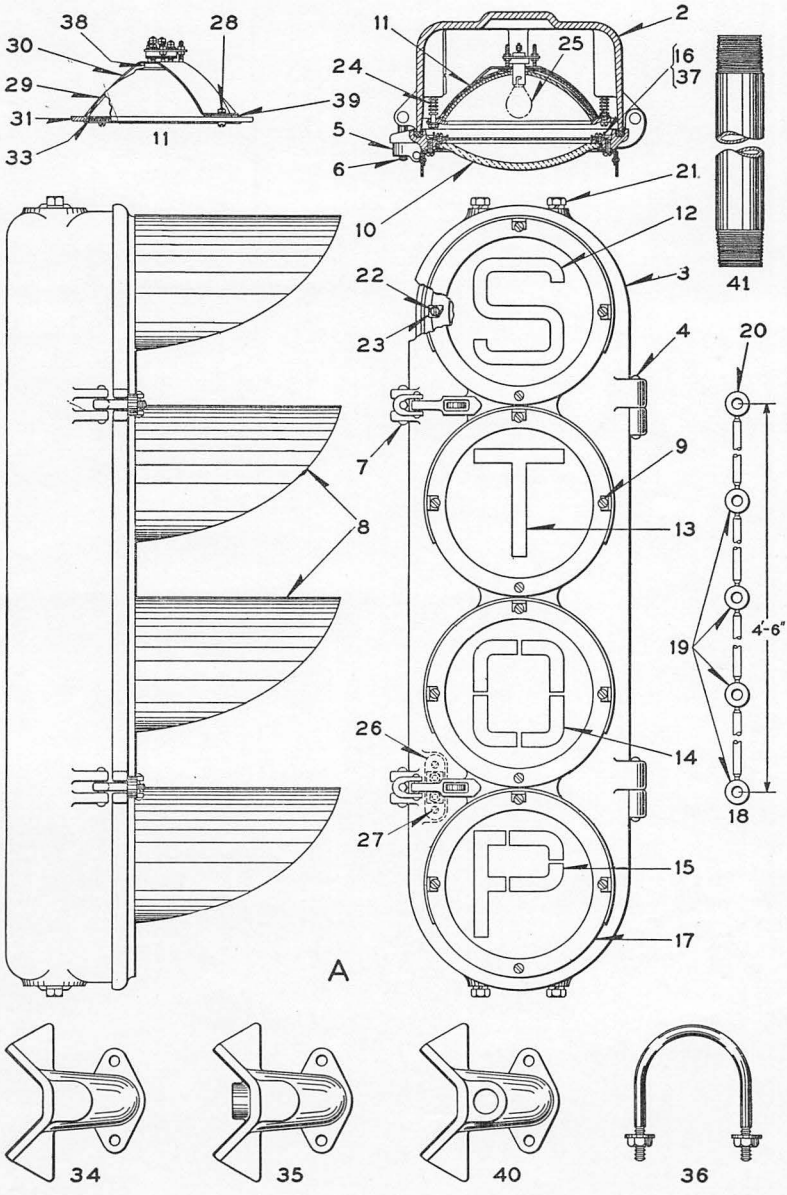
## DETAIL PARTS

### STYLE "HC-51" LAMP UNITS WITH 8⅜" DIAMETER COVER GLASS (30° SPREADLITE)

If Units with special locking stud shown in View "X" on Plate K-127 are required orders should so state.

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **181368** | **A** | **Style "HC-51" Lamp Unit Complete** with 8⅜" Diameter Red Cover Glass (30° Spreadlite) and 20" diameter Background. (Includes Lamp Unit Ref. Ab) (Without Lamp Bulb) | C–8965–34 |
| **176090** | **Aa** | **Style "HC-51" Lamp Unit** with 8⅜" Diameter Red Cover Glass (30° Spreadlite) and 20" diameter Background (Includes Lamp Unit Ref. Ac) (Without Lamp Bulb) | C–8965–34 |
| **182132** | **Ab** | **Style "HC-51" Lamp Unit** with 8⅜" Diameter Red Cover Glass (30° Spreadlite) and Case Ref. 2 (Without Background and Lamp Bulb) | C–8965–34 |
| **181310** | **Ac** | **Style "HC-51" Lamp Unit** with 8⅜" Diameter Red Cover Glass (30° Spreadlite) and Case Ref. 2a (Without Background and Lamp Bulb) | C–8965–34 |
| **149975** | **2** | **Case Complete** for Style "HC-51" Lamp Unit (Inc. 1-3 of this Plate and 1-2a, 1-5, 1-6, 1-7, 1-8 and 1-46 of Plate K-127)(Without Hole "Z") for Refs. A and Ab | C–8965–34 |
| **176085** | **2a** | **Case Complete** for Style "HC-51" Lamp Unit (Inc. 1-2b and 1-3 of this Plate and 1-5, 1-6, 1-7, 1-8 and 1-46 of Plate K-127) (With Hole "Z", ½" Pipe Tap) for Refs. Aa and Ac | C–8965–34 |
| **176084** | **2b** | **Case Only** for Ref. 2a (With Hole "Z", ½" Pipe Tap) | C–8964–60 |
| | **3** | **Door** with Gasket Ref. 4 of Plate K-127 | C–8964–70 |
| | **4** | **Red Cover Glass**, 8⅜" Diameter (30° Spreadlite) with Gasket Ref. 5 | B–8276–69 |
| | **5** | **Gasket**, $\frac{1}{16}$"x1"x2'-3" Lamp Wick. | |
| **71187** | **6** | **Lens Ring** | 7436–106 |
| | **7** | **Pipe Plug**, ½" C. I. (Cad. Pl.). | |
| | | For all other details refer to Plate K-127. | |




# Style "HC-42" Illuminated Stop Sign

# Highway Crossing Signals

## DETAIL PARTS

# Style "HC-42" Illuminated Stop Sign

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **148922** | **A** | **Style "HC-42" Illuminated Stop Sign** With Red Lenses (Without Lamps Ref. 25) | C–9208–1 |
| **148914** | **2** | **Case** | C–9207–2 |
| **152296** | **2a** | **Case** (With 1¼" Tapped Holes For Mounting Lamp Units to Side of Case) | C–9207–2 |
| **150873** | **3** | **Door Complete** | C–9207–6 |
| **49634** | **4** | **Hinge Pin** | B–10207–1 |
| **72832** | **5** | **Hasp Complete** | 8299–66 |
| **50126** | **6** | **Eye Bolt** | 8034–64 |
| **37075** | **7** | **Pin,** 1⅞" Long | B–10207–1 |
| **145981** | **8** | **Hood Complete** | C–8964–57 |
| | **9** | **Machine Screw,** No. 14-24x⅜" Rd. Hd. Br. (C.N. 51686) (N. Pl.) | |
| **146347** | **10** | **Red Roundel** | B–8276–40 |
| **149309** | **11** | **Reflector Complete** As Shown | C–9207–5 |
| **149082** | **12** | **"S" Letter Plate** | 11878–73 |
| **149083** | **13** | **"T" Letter Plate** | 11878–73 |
| **149084** | **14** | **"O" Letter Plate** | 11878–73 |
| **149085** | **15** | **"P" Letter Plate** | 11878–73 |
| **149281** | **16** | **Letter Plate Clip** | 11893–409 |
| **145962** | **17** | **Lens Ring** | 7436–136 |
| **149275** | **18** | **Lead** With Eyelets | B–9992–3 |
| **45302** | **19** | **Eyelet** For Ref. 18 | 8064–299 |
| **45304** | **20** | **Eyelet** For Ref. 18 | 8064–299 |
| | **21** | **Tap Bolt,** ½"-13x1¼" Hex. Hd. (C.N. 46447) (Cad. Pl.) With ½" Plain S. Lock Washer (C.N. 47769) (Cad. Pl.) | |

# Highway Crossing Signals

## DETAIL PARTS

## Style "HC-42" Illuminated Stop Sign

**(Continued)**

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **149232** | **22** | **Bolt** | 8098–346 |
| **51464** | **23** | **Nut Lock** | 8486–267 |
| **149141** | **24** | **Coil Spring** | 7770–432 |
| **145877** | **25** | **Lamp,** 11-Volts, 11-Watts Single Filament | 12409–12 |
| **151138** | **25a** | **Lamp,** 10-Volts, 18-Watts Single Filament | 12409–12 |
| **146930** | **25c** | **Lamp,** 10-Volts, 10-Watts Single Filament | 12409–12 |
| **142967** | **25d** | **Lamp,** 8-Volts, 10-Watts Single Filament | 12409–12 |
| **148970** | **25e** | **Lamp,** 10-Volts, 5-Watts Single Filament | 12409–12 |
| **114168** | **26** | **Terminal Block Complete** | 9968–629 |
| | **27** | **Machine Screw,** No. 12-28x1″ Fil. Hd. S. (C.N. 52310) (Tin Pl.) with Washer Ref. 27a | |
| **114118** | **27a** | **Washer** for Ref. 27 | 8078–1362 |
| **234751** | **28** | **Machine Screw,** No. 14-24x¾″ Fil. Hd. S. (C.N. 52325) (Tin Pl.) with ¼″ Plain S. Lock Washer (C.N. 47521) (Tin Pl.) and Hex. Nut Ref. 28a | 12471–70 |
| **93420** | **28a** | **Hex. Nut** for Ref. 28 | 8265–128 |
| **191672** | **29** | **Reflector Complete** with Metal Cover and Gasket | C–8964–111 |
| **149140** | **30** | **Reflector Clamp** with Lamp Socket | C–9207–5 |
| **149123** | **31** | **Reflector Ring** | 7632–230 |
| **151101** | **33** | **Gasket** | 8078–121 |
| **150991** | **34** | **Bracket** without tapped hole for 5″ and 6″ Pipe (Bottom Bracket when Combined Junction Box and Cross Arm is used; Top Bracket when 1¼″ Pipe Cross Arm is used) | C–9207–7 |
| **149052** | **34a** | **Bracket** without tapped hole for 3″ and 4″ Pipe (Bottom Bracket when Combined Junction Box and Cross Arm is used; Top Bracket when 1¼″ Pipe Cross Arm is used) | C–9207–3 |

# Highway Crossing Signals

## DETAIL PARTS

## Style "HC-42" Illuminated Stop Sign

**(Continued)**

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **221206** | **34b** | **Bracket** without tapped hole for 8″ Pipe (Bottom Bracket when Combined Junction Box and Cross Arm is used; Top Bracket when 1¼″ Pipe Cross Arm is used) | C–9207–7 |
| **150992** | **35** | **Bracket** without tapped hole for 5″ and 6″ Pipe (Bottom Bracket when 1¼″ Pipe Cross Arm is used) | C–9207–7 |
| **149051** | **35a** | **Bracket** without tapped hole for 3″ and 4″ Pipe (Bottom Bracket when 1¼″ Pipe Cross Arm is used) | C–9207–3 |
| **268344** | **35b** | **Bracket** without tapped hole for 8″ Pipe (Bottom Bracket when 1¼″ Pipe Cross Arm is used) | C–9207–7 |
| **172193** | **36** | **U-Bolt** with ½″ Hex. Nuts (C.N. 48013) (Cad. Pl.) and ½″ Std. Plate Washers (C.N. 47503) (Cad. Pl.) for 3″ and 4″ Pipe | 8782–108 |
| **15594** | **36a** | **U-Bolt** with ½″ Hex. Nuts (C.N. 48013) (Cad. Pl.) and ½″ Std. Plate Washers (C.N. 47503) (Cad. Pl.) for 5″ Pipe | 8782–27 |
| **215790** | **36b** | **U-Bolt** with ½″ Hex. Nuts (C.N. 48013) (Cad. Pl.) and ½″ Std. Plate Washers (C.N. 47503) (Cad. Pl.) for 6″ Pipe | 8782–175 |
| **215089** | **36c** | **Hinged U-Bolt** with ½″ Hex. Nuts (C.N. 48013) (Cad. Pl.) and ½″ Std. Plate Washers (C.N. 47503) (Cad. Pl.) for 8″ Pipe | 8782–219 |
| | **37** | **Machine Screw,** No. 10-32x¼″ Fil. Hd. Br. (C.N. 51295) (N.Pl.) | |
| **193777** | **38** | **Gasket** | 8078–1582 |
| **287593** | **39** | **Washer** | 7828–282 |
| **212161** | **40** | **Bracket** with 1¼″ tapped hole for 5″ Pipe (Top Bracket when Combined Junction Box and Cross Arm is used) | C–9207–7 |

UNION SWITCH & SIGNAL
DIVISION OF WESTINGHOUSE AIR BRAKE CO.

# Highway Crossing Signals

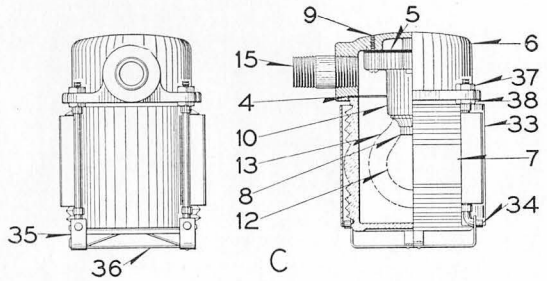
## DETAIL PARTS

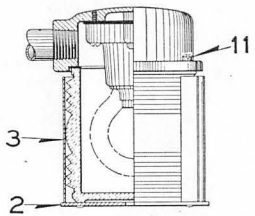
## Style "HC-42" Illuminated Stop Sign

(Continued)

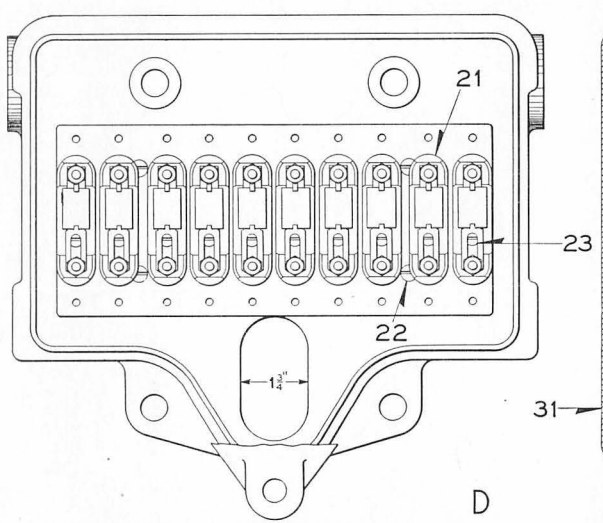
**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

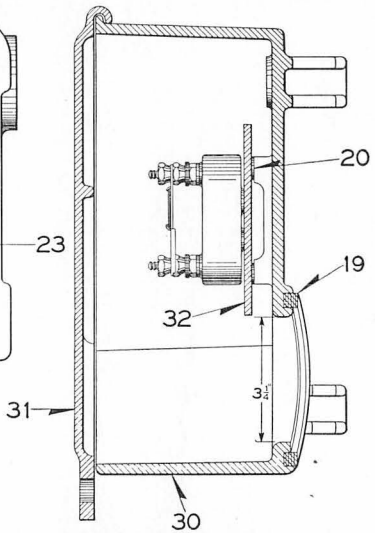
| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **195182** | **40a** | **Bracket** with 1¼″ tapped hole for 3″ and 4″ Pipe (Top Bracket when Combined Junction Box and Cross Arm is used) | C–9207–3 |
| **221205** | **40b** | **Bracket** with 1¼″ tapped hole for 8″ Pipe (Top Bracket when Combined Junction Box and Cross Arm is used) | C–9207–7 |
| **215782** | **40c** | **Bracket** with 1¼″ tapped hole for 6″ Pipe (Top Bracket when Combined Junction Box and Cross Arm is used) | C–9207–7 |
| **195183** | **41** | **Pipe Nipple.** For attaching stop sign to Combined Junction Box and Cross Arm | B–10375–2 |

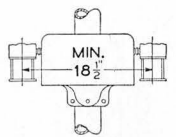



VIEW OF STYLE HP-10 FOR ORDERING REPAIR PARTS




VIEW OF TERMINAL BOX AND PILOT LIGHTS ATTACHED TO 4" POLE

# Style "HP-10A" Pilot Light and Terminal Box

UNION SWITCH & SIGNAL
DIVISION OF WESTINGHOUSE AIR BRAKE CO.

# Highway Crossing Signals

## DETAIL PARTS

# Style "HP-10A" Pilot Light and Terminal Box For Center of Street Location

**Unless otherwise specified, Style "HP-10A" Pilot Lights will be furnished with red lens and two piece shields.**

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| 288724 | C | **Style "HP-10A" Pilot Light Complete** for Highway Crossing Signal mounted in center of street. Equipped with Red Lens and Lamp Receptacle for medium screw base lamp (Without lamp and Pipe Nipple) | B–12663–5 |
| 288725 | Ca | **Style "HP-10A" Pilot Light Complete** for Highway Crossing Signal mounted in center of street. Equipped with Red Lens and Adapter for Single Contact "S-11" lamp (Without lamp and Pipe Nipple) | B–12663–5 |
| 178259 | D | **Cable Terminal Box Complete** with 10 Terminal Blocks as shown. For applying to 3″ to 6″ inclusive pipe post (Does not include U-Bolts) | C–6676–24 |
| 153507 | 2 | **Bottom Plate** with Studs | 11893–440 |
| 153508 | 3 | **Lens Shield** | 11893–439 |
| 153509 | 4 | **Gasket** | 8078–1458 |
| 153510 | 5 | **Gasket** | 8078–1457 |
| 153505 | 6 | **Housing** | B–12665–1 |
| 153125 | 7 | **Red Lens** | B–8276–51 |
| 161628 | 7a | **Clear Lens** | B–8276–51 |
| 168393 | 7b | **Yellow Lens** | B–8276–51 |
| 265264 | 7c | **Green Lens** | B–8276–51 |
| 119806 | 8 | **Adapter** for Ref. Ca | 9954–57 |
| | 9 | **Machine Screw,** No. 8-36x⅞″ Rd. Hd. Br. (C.N. 51647) (N.P.) | |
| | 10 | **Lamp Receptacle** for Ref. C (C.N. 72032) | |

UNION SWITCH & SIGNAL
DIVISION OF WESTINGHOUSE AIR BRAKE CO.

# Highway Crossing Signals

## DETAIL PARTS

# Style "HP-10A" Pilot Light and Terminal Box For Center of Street Location

(Continued)

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | **11** | **Machine Screw,** No. 10-32x⅝″ Fil. Hd. Br. (C.N. 51299) (N.P.) | |
| **145877** | **12** | **Lamp,** 11-Volts, 11-Watts, Single Contact Bayonet Candelabra Base, for Ref. Ca | 12409–12 |
| **95268** | **13** | **Lamp,** 120-Volts, 36-Watts, Medium Screw Base, for Ref. C | 12409–8 |
| **153663** | **15** | **Pipe Nipple,** 1½″ long | B–10375–1 |
| **52794** | **19** | **Gasket** | 8078–924 |
| | **20** | **Plate Washer,** 3/16″ S. (C.N. 47500) (Tin Pl.) | |
| **114159** | **21** | **Terminal Block Complete** | 9968–630 |
| | **22** | **Machine Screw,** No. 14-24x½″ Flat Hd. S. (C.N. 52105) (Cad. Pl.) | |
| | **23** | **Machine Screw,** No. 14-24x¾″ Fil. Hd. S. (C.N. 52325) (Cad. Pl.) | |
| | **29** | **U-Bolt** Ref. 29e with ⅝″ Hex. Nuts for 3″ pipe (Not shown) | |
| | **29a** | **U-Bolt** Ref. 29f with ⅝″ Hex. Nuts for 3½″ pipe (Not shown) | |
| | **29b** | **U-Bolt** Ref. 29g with ⅝″ Hex. Nuts for 4″ pipe (Not shown) | |
| | **29c** | **U-Bolt** Ref. 29h with ⅝″ Hex. Nuts for 5″ pipe or casing (Not shown) | |
| | **29d** | **U-Bolt** Ref. 29j with ⅝″ Hex. Nuts for 6″ pipe (Not shown) | |
| **195507** | **29e** | **U-Bolt Only** for 3″ pipe | 8782–204 |
| **183410** | **29f** | **U-Bolt Only** for 3½″ pipe | 8782–194 |

# Highway Crossing Signals

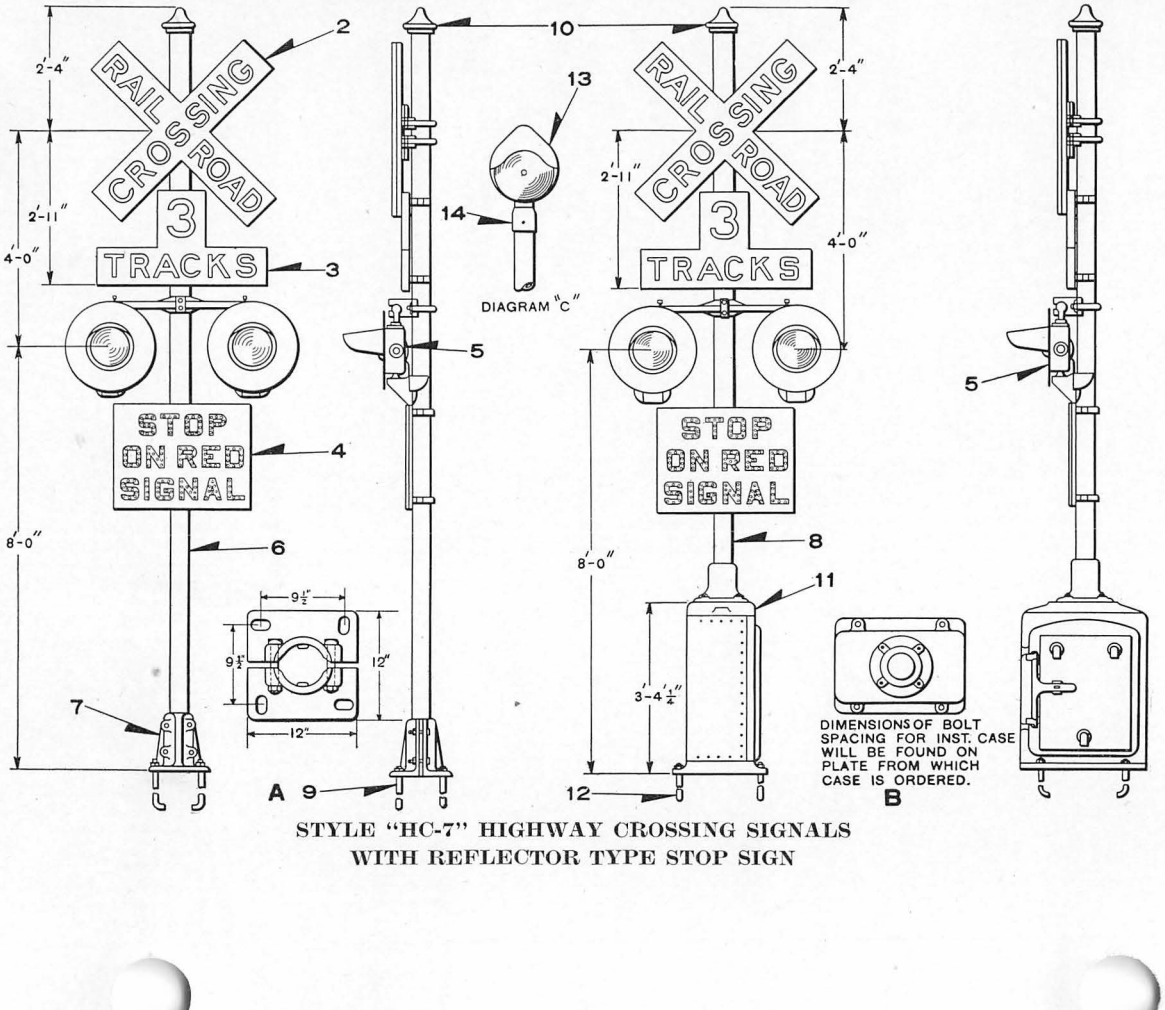
## DETAIL PARTS

# Style "HP-10A" Pilot Light and Terminal Box For Center of Street Location

(Continued)

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **118554** | **29g** | **U-Bolt Only** for 4″ pipe | 8782–99 |
| **52795** | **29h** | **U-Bolt Only** for 5″ pipe or casing | 8782–99 |
| **214445** | **29j** | **Hinged U-Bolt** for 6″ pipe | 8782–218 |
| **172542** | **30** | **Terminal Box Only** | C–6677–24 |
| **172543** | **31** | **Cover** | C–6677–24 |
| **172541** | **32** | **Terminal Base** | 9999–852 |
| **288717** | **33** | **Lens Shield** | 11893–1134 |
| **293907** | **33a** | **Lens Shield,** One Piece (For sending light in one direction only) | 11893–1153 |
| **288720** | **34** | **Stud** | 8114–1165 |
| **288722** | **35** | **Locking Bracket Complete** | 11893–1137 |
| **288721** | **36** | **Locking Bracket Complete** | 11893–1136 |
| **49** | **37** | **Nut** | 8109–1 |
| **15127** | **38** | **Nut** | 8109–72 |




STYLE "HC-7" HIGHWAY CROSSING SIGNALS
WITH REFLECTOR TYPE STOP SIGN

UNION SWITCH & SIGNAL CO.

## STYLE "HC-7" HIGHWAY CROSSING SIGNALS WITH REFLECTOR TYPE STOP SIGN

Orders should specify bell if desired by referring to Reference 13 and 13a of this Plate. Unless otherwise specified all signals listed on this Plate will be furnished with 11 Volt 11 Watt lamps.

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

**Style "HC-7" Highway Crossing Signal** with 4″ Pipe Post, Base and Foundation Bolts (Orders should specify number desired on Track Sign)

| Piece | Ref. | Size of Lenses | Type of Crossing Sign | Type of Track Sign | Back-light | Back-ground | Cross Arm and Lamp Units Plate K-153 | Drawing Reference |
|---|---|---|---|---|---|---|---|---|
| | **A** | 9″ | Cast Iron | Cast Iron | With | With | Ref. A | B–8912– |
| | **Aa** | 9″ | Cast Iron | Cast Iron | With | With-out | Ref. Aa | B–8912– |
| | **Ab** | 9″ | Cast Iron | Cast Iron | With-out | With | Ref. Ab | B–8912– |
| | **Ac** | 9″ | Cast Iron | Cast Iron | With-out | With-out | Ref. Ac | B–8912– |
| | **Ad** | 9″ | Reflector | Reflector | With | With | Ref. A | B–8912– |
| | **Ae** | 9″ | Reflector | Reflector | With | With-out | Ref. Aa | B–8912– |
| | **Af** | 9″ | Reflector | Reflector | With-out | With | Ref. Ab | B–8912– |
| | **Ag** | 9″ | Reflector | Reflector | With-out | With-out | Ref. Ac | B–8912– |
| | **Ah** | 9″ | Reflector | Without | With | With | Ref. A | B–8912– |
| | **Aj** | 9″ | Reflector | Without | With | With-out | Ref. Aa | B–8912– |
| | **Ak** | 9″ | Reflector | Without | With-out | With | Ref. Ab | B–8912– |
| | **Am** | 9″ | Reflector | Without | With-out | With-out | Ref. Ac | B–8912– |

UNION SWITCH & SIGNAL CO.

## STYLE "HC-7" HIGHWAY CROSSING SIGNALS WITH REFLECTOR TYPE STOP SIGN (Continued)

Orders should specify bell if desired by referring to Reference 13 and 13a of this Plate. Unless otherwise specified all signals listed on this Plate will be furnished with 11 Volt 11 Watt lamps.

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

**Style "HC-7" Highway Crossing Signal** with 4″ Pipe Post, Base and Foundation Bolts (Orders should specify number desired on Track Sign)

| Piece | Ref. | Size of Lenses | Type of Crossing Sign | Type of Track Sign | Back-light | Back-ground | Cross Arm and Lamp Units Plate K-153 | Drawing Reference |
|---|---|---|---|---|---|---|---|---|
| | **An** | 8 3/8″ | Cast Iron | Cast Iron | With | With | Ref. Ad | B–8912 |
| | **Ap** | 8 3/8″ | Cast Iron | Cast Iron | With | With-out | Ref. Ae | B–8912– |
| | **Aq** | 8 3/8″ | Cast Iron | Cast Iron | With-out | With | Ref. Af | B–8912– |
| | **Ar** | 8 3/8″ | Cast Iron | Cast Iron | With-out | With-out | Ref. Ag | B–8912– |
| | **As** | 8 3/8″ | Reflector | Reflector | With | With | Ref. Ad | B–8912– |
| | **At** | 8 3/8″ | Reflector | Reflector | With | With-out | Ref. Ae | B–8912– |
| | **Au** | 8 3/8″ | Reflector | Reflector | With-out | With | Ref. Af | B–8912– |
| | **Av** | 8 3/8″ | Reflector | Reflector | With-out | With-out | Ref. Ag | B–8912– |
| | **Aw** | 8 3/8″ | Reflector | Without | With | With | Ref. Ad | B–8912– |
| | **Ax** | 8 3/8″ | Reflector | Without | With | With-out | Ref. Ae | B–8912– |
| | **Ay** | 8 3/8″ | Reflector | Without | With-out | With | Ref. Af | B–8912– |
| | **Az** | 8 3/8″ | Reflector | Without | With-out | With-out | Ref. Ag | B–8912– |

UNION SWITCH & SIGNAL CO.

## STYLE "HC-7" HIGHWAY CROSSING SIGNALS WITH REFLECTOR TYPE STOP SIGN (Continued)

Orders should specify bell if desired by referring to Reference 13 and 13a of this Plate. Unless otherwise specified all signals listed on this Plate will be furnished with 11 Volt 11 Watt lamps.

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

**Style "HC-7" Highway Crossing Signal** with 4″ Pipe Post, Instrument Case and Foundation Bolts. Orders should specify number desired on Track Sign

| Piece | Ref. | Size of Lenses | Type of Crossing Sign | Type of Track Sign | Back-light | Back-ground | Cross Arm and Lamp Units Plate K-153 | Drawing Reference |
|---|---|---|---|---|---|---|---|---|
| | **B** | 9″ | Cast Iron | Cast Iron | With | With | Ref. A | B–8912– |
| | **Ba** | 9″ | Cast Iron | Cast Iron | With | With-out | Ref. Aa | B–8912– |
| | **Bb** | 9″ | Cast Iron | Cast Iron | With-out | With | Ref. Ab | B–8912– |
| | **Bc** | 9″ | Cast Iron | Cast Iron | With-out | With-out | Ref. Ac | B–8912– |
| | **Bd** | 9″ | Reflector | Reflector | With | With | Ref. A | B–8912– |
| | **Be** | 9″ | Reflector | Reflector | With | With-out | Ref. Aa | B–8912– |
| | **Bf** | 9″ | Reflector | Reflector | With-out | With | Ref. Ab | B–8912– |
| | **Bg** | 9″ | Reflector | Reflector | With-out | With-out | Ref. Ac | B–8912– |
| | **Bh** | 9″ | Reflector | Without | With | With | Ref. A | B–8912– |
| | **Bj** | 9″ | Reflector | Without | With | With-out | Ref. Aa | B–8912– |
| | **Bk** | 9″ | Reflector | Without | With-out | With | Ref. Ab | B–8912– |
| | **Bm** | 9″ | Reflector | Without | With-out | With-out | Ref. Ac | B–8912– |

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## STYLE "HC-7" HIGHWAY CROSSING SIGNALS WITH REFLECTOR TYPE STOP SIGN (Continued)

Orders should specify bell if desired by referring to Reference 13 and 13a of this Plate. Unless otherwise specified all signals listed on this Plate will be furnished with 11 Volt 11 Watt lamps.

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

**Style "HC-7" Highway Crossing Signal** with 4″ Pipe Post, Instrument Case and Foundation Bolts (Orders should specify number desired on Track Sign)

| Piece | Ref. | Size of Lenses | Type of Crossing Sign | Type of Track Sign | Back-light | Back-ground | Cross Arm and Lamp Units Plate K-153 | Drawing Reference |
|---|---|---|---|---|---|---|---|---|
| | **Bn** | 8 3/8″ | Cast Iron | Cast Iron | With | With | Ref. Ad | B–8912– |
| | **Bp** | 8 3/8″ | Cast Iron | Cast Iron | With | With-out | Ref. Ae | B–8912– |
| | **Bq** | 8 3/8″ | Cast Iron | Cast Iron | With-out | With | Ref. Af | B–8912– |
| | **Br** | 8 3/8″ | Cast Iron | Cast Iron | With-out | With-out | Ref. Ag | B–8912– |
| | **Bs** | 8 3/8″ | Reflector | Reflector | With | With | Ref. Ad | B–8912– |
| | **Bt** | 8 3/8″ | Reflector | Reflector | With | With-out | Ref. Ae | B–8912– |
| | **Bu** | 8 3/8″ | Reflector | Reflector | With-out | With | Ref. Af | B–8912– |
| | **Bv** | 8 3/8″ | Reflector | Reflector | With-out | With-out | Ref. Ag | B–8912– |
| | **Bw** | 8 3/8″ | Reflector | Without | With | With | Ref. Ad | B–8912– |
| | **Bx** | 8 3/8″ | Reflector | Without | With | With-out | Ref. Ae | B–8912– |
| | **By** | 8 3/8″ | Reflector | Without | With-out | With | Ref. Af | B–8912– |
| | **Bz** | 8 3/8″ | Reflector | Without | With-out | With-out | Ref. Ag | B–8912– |

UNION SWITCH & SIGNAL CO.

## STYLE "HC-7" HIGHWAY CROSSING SIGNALS WITH REFLECTOR TYPE STOP SIGN (Continued)

Orders should specify bell if desired by referring to Reference 13 and 13a of this Plate. Unless otherwise specified all signals listed on this Plate will be furnished with 11 Volt 11 Watt lamps.

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **172004** | **2** | **Crossing Sign,** Reflector Type having white letters on black background, includes U-Bolts and Clamp (For details refer to Plate K-165) | C–9360–2 |
| | **2a** | **Crossing Sign,** (Single Faced) Cast Iron having white letters on black background, includes U-Bolts and Clamps (For details refer to Plate K-170) | C–5844–5 |
| | **2b** | **Crossing Sign,** (Double Faced) Cast Iron having white letters on black background, includes U-Bolts and Clamps (For details refer to Plate K-170) | B–8912– |
| | **3** | **Track Sign,** Reflector Type having white letters and number on black background, includes bolts and clamps (For details refer to Plate K-165). (Orders should specify "Number" desired) | C–9360–4 |
| | **3a** | **Track Sign,** Cast Iron having white letters on black background, includes bolts and clamps (For details refer to Plate K-170). (Orders should specify "Number" desired) | |
| **172141** | **4** | **Stop Sign,** Reflector Type having white letters on black background, includes bolts and clamps (For details refer to Plate K-165) | C–9360–3 |
| | **5** | **Cross Arm** with Lamp Units, having 9″ Lens, Clamps and U-Bolt (For details refer to Plate K-153) | B–8912– |
| | **5a** | **Cross Arm** with Lamp Units having 8⅜″ Lens, Clamps and U-Bolt. (For details refer to Plate K-153) | B-8912– |
| **172295** | **6** | **Post, 4″ Pipe, 14′ 1″ long** with Base | B–9893–237 |
| **136947** | **7** | **Base (Two Halves)** with Bolts and Nuts | C–6634–7 |
| | **8** | **Post, 4″ Pipe, 10′ 8¾″ long** with Base | B–9893– |
| **10478** | **9** | **Foundation Bolt, ¾″x18″** with ¾″ Plate Washer and ¾″ Hex. Nut | 7913–44 |

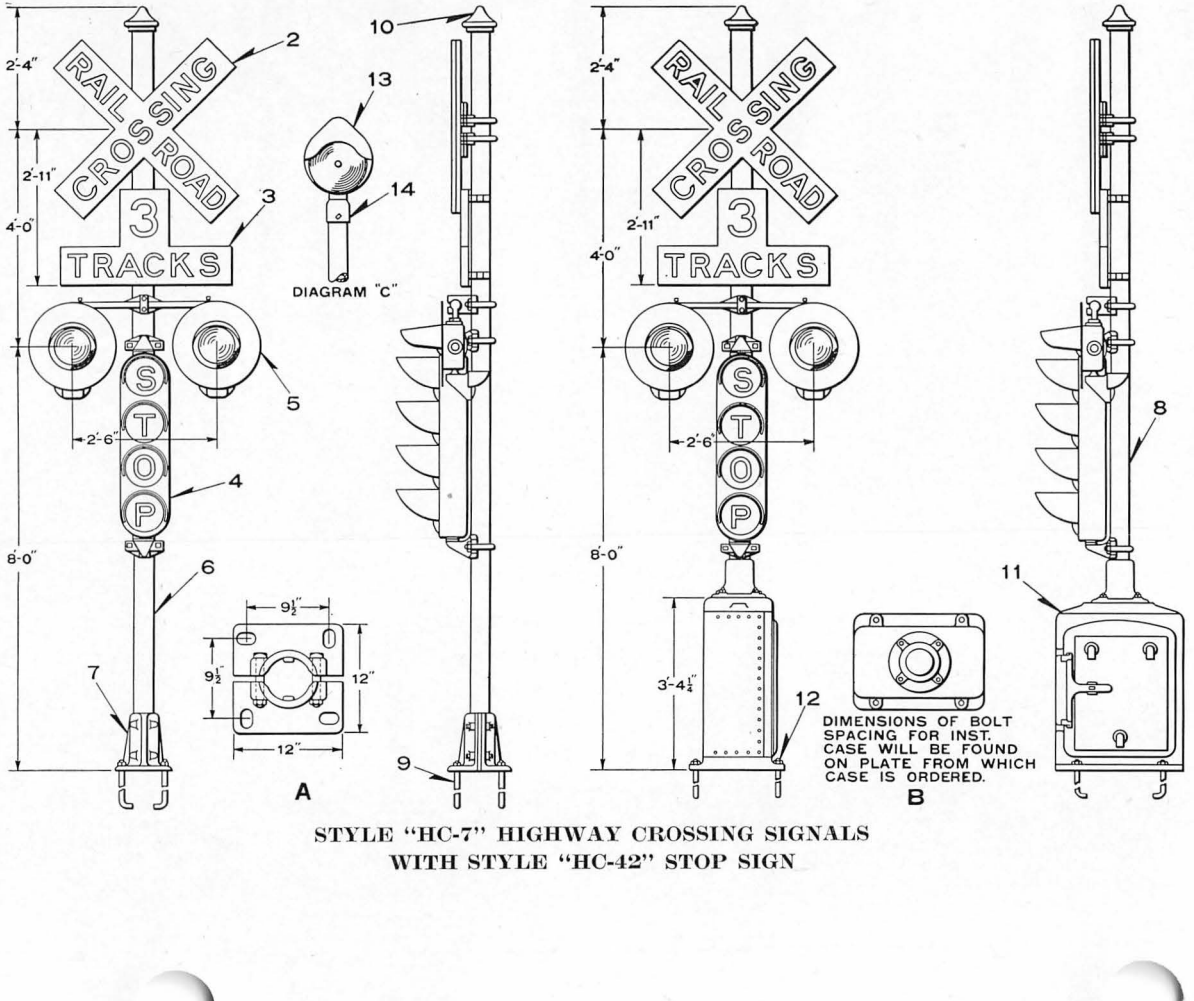
UNION SWITCH & SIGNAL CO.

## STYLE "HC-7" HIGHWAY CROSSING SIGNALS WITH REFLECTOR TYPE STOP SIGN (Continued)

Orders should specify bell if desired by referring to Reference 13 and 13a of this Plate. Unless otherwise specified all signals listed on this Plate will be furnished with 11 Volt 11 Watt lamps.

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **145739** | **10** | **Pinnacle** | B–8121–10 |
| | **11** | **Instrument Case,** 3′ 4¼″ high (When ordering refer to Section "L" Catalog) | C–7589– |
| **10276** | **12** | **Foundation Bolt,** 1″x30″ with 1″ Hex. Nut | 7913–54 |
| | **13** | **Model "15-A" D.C. Crossing Bell** (Orders should specify Bell desired by referring to Plate K-80) | C–8807–1 |
| | **13a** | **Style "AH-10" A.C. Crossing Bell** (Orders should specify Bell desired by referring to Plate K-91) | C–8913–3 |
| **82254** | **14** | **Adapter,** for mounting Crossing Bell on 4″ Pipe | C–6041–10 |




STYLE "HC-7" HIGHWAY CROSSING SIGNALS
WITH STYLE "HC-42" STOP SIGN

UNION SWITCH & SIGNAL CO.

## STYLE "HC-7" HIGHWAY CROSSING SIGNALS WITH STYLE "HC-42" STOP SIGN

Orders should specify bell if desired by referring to Reference 13 and 13a of this Plate. Unless otherwise specified all signals listed on this Plate will be furnished with 11 Volt 11 Watt lamps.

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

**Style "HC-7" Highway Crossing Signal** with 4″ Pipe Post, Base and Foundation Bolts (Orders should specify number desired on Track Sign)

| Piece | Ref. | Size of Lenses | Type of Crossing Sign | Type of Track Sign | Back-light | Back-ground | Cross Arm and Lamp Units Plate K-153 | Drawing Reference |
|---|---|---|---|---|---|---|---|---|
| | **A** | 9″ | Cast Iron | Cast Iron | With | With | Ref. A | B–8912– |
| | **Aa** | 9″ | Cast Iron | Cast Iron | With | With-out | Ref. Aa | B–8912– |
| | **Ab** | 9″ | Cast Iron | Cast Iron | With-out | With | Ref. Ab | B–8912– |
| | **Ac** | 9″ | Cast Iron | Cast Iron | With-out | With-out | Ref. Ac | B–8912– |
| | **Ad** | 9″ | Reflector | Reflector | With | With | Ref. A | B–8912– |
| | **Ae** | 9″ | Reflector | Reflector | With | With-out | Ref. Aa | B–8912– |
| | **Af** | 9″ | Reflector | Reflector | With-out | With | Ref. Ab | B–8912– |
| | **Ag** | 9″ | Reflector | Reflector | With-out | With-out | Ref. Ac | B–8912– |
| | **Ah** | 9″ | Reflector | Without | With | With | Ref. A | B–8912– |
| | **Aj** | 9″ | Reflector | Without | With | With-out | Ref. Aa | B–8912– |
| | **Ak** | 9″ | Reflector | Without | With-out | With | Ref. Ab | B–8912– |
| | **Am** | 9″ | Reflector | Without | With-out | With-out | Ref. Ac | B–8912– |

UNION SWITCH & SIGNAL CO.

## STYLE "HC-7" HIGHWAY CROSSING SIGNALS WITH STYLE "HC-42" STOP SIGN (Continued)

Orders should specify bell if desired by referring to Reference 13 and 13a of this Plate. Unless otherwise specified all signals listed on this Plate will be furnished with 11 Volt 11 Watt lamps.

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

**Style "HC-7" Highway Crossing Signal** with 4″ Pipe Post, Base and Foundation Bolts (Orders should specify number desired on Track Sign)

| Piece | Ref. | Size of Lenses | Type of Crossing Sign | Type of Track Sign | Back-light | Back-ground | Cross Arm and Lamp Units Plate K-153 | Drawing Reference |
|---|---|---|---|---|---|---|---|---|
| | **An** | 8⅜″ | Cast Iron | Cast Iron | With | With | Ref. Ad | B–8912– |
| | **Ap** | 8⅜″ | Cast Iron | Cast Iron | With | Without | Ref. Ae | B–8912– |
| | **Aq** | 8⅜″ | Cast Iron | Cast Iron | Without | With | Ref. Af | B–8912– |
| | **Ar** | 8⅜″ | Cast Iron | Cast Iron | Without | Without | Ref. Ag | B–8912– |
| | **As** | 8⅜″ | Reflector | Reflector | With | With | Ref. Ad | B–8912– |
| | **At** | 8⅜″ | Reflector | Reflector | With | Without | Ref. Ae | B–8912– |
| | **Au** | 8⅜″ | Reflector | Reflector | Without | With | Ref. Af | B–8912– |
| | **Av** | 8⅜″ | Reflector | Reflector | Without | Without | Ref. Ag | B–8912– |
| | **Aw** | 8⅜″ | Reflector | Without | With | With | Ref. Ad | B–8912– |
| | **Ax** | 8⅜″ | Reflector | Without | With | Without | Ref. Ae | B–8912– |
| | **Ay** | 8⅜″ | Reflector | Without | Without | With | Ref. Af | B–8912– |
| | **Az** | 8⅜″ | Reflector | Without | Without | Without | Ref. Ag | B–8912– |

UNION SWITCH & SIGNAL CO.

## STYLE "HC-7" HIGHWAY CROSSING SIGNALS WITH STYLE "HC-42" STOP SIGN (Continued)

Orders should specify bell if desired by referring to Reference 13 and 13a of this Plate. Unless otherwise specified all signals listed on this Plate will be furnished with 11 Volt 11 Watt lamps.

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| **Style "HC-7" Highway Crossing Signal** with 4″ Pipe Post, Instrument Case and Foundation Bolts (Orders should specify number desired on Track Sign) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Piece | Ref. | Size of Lenses | Type of Crossing Sign | Type of Track Sign | Back-light | Back-ground | Cross Arm and Lamp Units Plate K-153 | Drawing Reference |
| | **B** | 9″ | Cast Iron | Cast Iron | With | With | Ref. A | B–8912– |
| | **Ba** | 9″ | Cast Iron | Cast Iron | With | With-out | Ref. Aa | B–8912– |
| | **Bb** | 9″ | Cast Iron | Cast Iron | With-out | With | Ref. Ab | B–8912– |
| | **Bc** | 9″ | Cast Iron | Cast Iron | With-out | With-out | Ref. Ac | B–8912– |
| | **Bd** | 9″ | Reflector | Reflector | With | With | Ref. A | B–8912– |
| | **Be** | 9″ | Reflector | Reflector | With | With-out | Ref. Aa | B–8912– |
| | **Bf** | 9″ | Reflector | Reflector | With-out | With | Ref. Ab | B–8912– |
| | **Bg** | 9″ | Reflector | Reflector | With-out | With-out | Ref. Ac | B–8912– |
| | **Bh** | 9″ | Reflector | Without | With | With | Ref. A | B–8912– |
| | **Bj** | 9″ | Reflector | Without | With | With-out | Ref. Aa | B–8912– |
| | **Bk** | 9″ | Reflector | Without | With-out | With | Ref. Ab | B–8912– |
| | **Bm** | 9″ | Reflector | Without | With-out | With-out | Ref. Ac | B–8912– |

UNION SWITCH & SIGNAL CO.

## STYLE "HC-7" HIGHWAY CROSSING SIGNALS WITH STYLE "HC-42" STOP SIGN (Continued)

Orders should specify bell if desired by referring to Reference 13 and 13a of this Plate. Unless otherwise specified all signals listed on this Plate will be furnished with 11 Volt 11 Watt lamps.

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

**Style "HC-7" Highway Crossing Signal** with 4″ Pipe Post, Instrument Case and Foundation Bolts (Orders should specify number desired on Track sign)

| Piece | Ref. | Size of Lenses | Type of Crossing Sign | Type of Track Sign | Back-light | Back-ground | Cross Arm and Lamp Units Plate K-153 | Drawing Reference |
|---|---|---|---|---|---|---|---|---|
| | **Bn** | 8 3/8″ | Cast Iron | Cast Iron | With | With | Ref. Ad | B–8912– |
| | **Bp** | 8 3/8″ | Cast Iron | Cast Iron | With | With-out | Ref. Ae | B–8912– |
| | **Bq** | 8 3/8″ | Cast Iron | Cast Iron | With-out | With | Ref. Af | B–8912– |
| | **Br** | 8 3/8″ | Cast Iron | Cast Iron | With-out | With-out | Ref. Ag | B–8912– |
| | **Bs** | 8 3/8″ | Reflector | Reflector | With | With | Ref. Ad | B–8912– |
| | **Bt** | 8 3/8″ | Reflector | Reflector | With | With-out | Ref. Ae | B–8912– |
| | **Bu** | 8 3/8″ | Reflector | Reflector | With-out | With | Ref. Af | B–8912– |
| | **Bv** | 8 3/8″ | Reflector | Reflector | With-out | With-out | Ref. Ag | B–8912– |
| | **Bw** | 8 3/8″ | Reflector | Without | With | With | Ref. Ad | B–8912– |
| | **Bx** | 8 3/8″ | Reflector | Without | With | With-out | Ref. Ae | B–8912– |
| | **By** | 8 3/8″ | Reflector | Without | With-out | With | Ref. Af | B–8912– |
| | **Bz** | 8 3/8″ | Reflector | Without | With-out | With-out | Ref. Ag | B–8912– |

UNION SWITCH & SIGNAL CO.

## STYLE "HC-7" HIGHWAY CROSSING SIGNALS WITH STYLE "HC-42" STOP SIGN (Continued)

Orders should specify bell if desired by referring to Reference 13 and 13a of this Plate. Unless otherwise specified all signals listed on this Plate will be furnished with 11 Volt 11 Watt lamps.

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **172004** | **2** | **Crossing Sign,** Reflector Type having white letters on black background, includes U-Bolts and Clamps (For details refer to Plate K-165) | C–9360–2 |
| | **2a** | **Crossing Sign,** (Single Faced) Cast Iron having black letters on white background, includes U-Bolts and Clamps (For details refer to Plate K-126) | C–5844–5 |
| **174150** | **2b** | **Crossing Sign,** (Double Faced) Cast Iron having black letters and border on white background, includes U-Bolts and Clamps (For details refer to Plate K-170) | B–8912–87 |
| | **3** | **Track Sign,** Reflector Type having white letters and number on black background, includes bolts and clamps (For details refer to Plate K-165) (Orders should specify "Number" desired) | C–9360–4 |
| | **3a** | **Track Sign,** Cast Iron having black letters on white background, includes bolts and clamps (For details refer to Plate K-170). (Orders should specify "Number" desired). | |
| **148922** | **4** | **Style "HC-42" Illuminated Stop Sign** (For details refer to Plate K-130) | C–9208–1 |
| | **5** | **Cross Arm** with Lamp Units having 9″ Lens, Clamps and U-Bolts (For details refer to Plate K-153) | B–8912– |
| | **5a** | **Cross Arm** with Lamp Units having 8 3/8″ Lens, Clamps and U-Bolts (For details refer to Plate K-153) | B–8912– |
| **171916** | **6** | **Post, 4″ Pipe, 14′ 1″ long** with base | B–9893–140 |
| **136947** | **7** | **Base (Two Halves)** with Bolts and Nuts | C–6634–7 |
| | **8** | **Post, 4″ Pipe, 10′ 8¾″ long** with Base | B–9893– |
| **10478** | **9** | **Foundation Bolt, ¾″x18″** with ¾″ Plate Washer and ¾″ Hex. Nut | 7913–44 |

UNION SWITCH & SIGNAL CO.

## STYLE "HC-7" HIGHWAY CROSSING SIGNALS WITH STYLE "HC-42" STOP SIGN (Continued)

Orders should specify bell if desired by referring to Reference 13 and 13a of this Plate. Unless otherwise specified all signals listed on this Plate will be furnished with 11 Volt 11 Watt lamps.

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **145739** | **10** | **Pinnacle** | B–8121–10 |
| | **11** | **Instrument Case, 3′ 4¼″** high (When ordering refer to section "L" Catalog) | C–7589– |
| **10276** | **12** | **Foundation Bolt, 1″x30″** with 1″ Hex. Nut | 7913–54 |
| | **13** | **Model "15-A" D.C. Crossing Bell** (Orders should specify Bell desired by referring to Plate K-80) | C–8807–1 |
| | **13a** | **Style "AH-10" A.C. Crossing Bell** (Orders should specify Bell desired by referring to Plate K-91) | C–8913–3 |
| **82254** | **14** | **Adapter,** for mounting Crossing Bell on 4″ Pipe | B–6041–10 |

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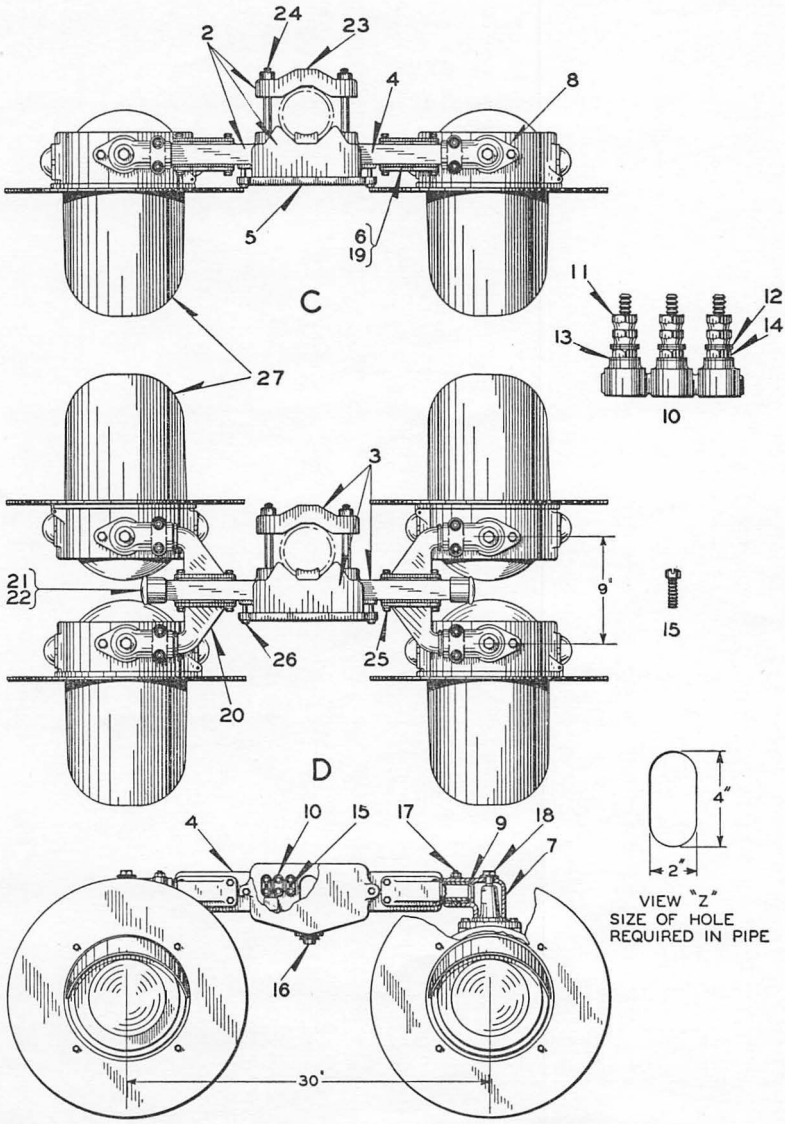



FRONT VIEW FOR REFS. C AND D

# Style "HC-81" Lamp Units with Combined Junction Box and Cross Arms

# Highway Crossing Signals

## DETAIL PARTS

## Style "HC-81" Lamp Units with Combined Junction Box and Cross Arms

**Unless Otherwise Specified, Lamp Units With 10-Volt, 18-Watt Lamps will be Furnished. Orders Should Specify Size of Pipe Post to Which Supporting Arm Is to Be Mounted.**

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | C | **Two Style "HC-81" Lamp Units with 8⅜" Diameter 30° Spreadlite Cover Glass and Cross Arm Assembly Complete** with mounting fittings. (For indication in one direction) (Orders should specify size of pipe post so proper mounting bolts will be furnished) | B–8912– |
| | D | **Four Style "HC-81" Lamp Units with 8⅜" Diameter 30° Spreadlite Cover Glass and Cross Arm Assembly Complete** with mounting fittings. (For indication in two directions) (Orders should specify size of pipe post so proper mounting bolts will be furnished) | B–8912– |
| | 2 | **Combined Junction Box and Cross Arm Complete** with Mounting fittings for mounting two flashing light units (Orders should specify size of pipe post so proper mounting bolts will be furnished) | C–9476–1 |
| | 3 | **Combined Junction Box and Cross Arm Complete** with mounting fittings for mounting four flashing light units (Orders should specify size of pipe post so proper mounting bolts will be furnished) | C–9476–2 |
| 192485 | 4 | **Junction Box and Cross Arm** | C–9475–1 |
| 211215 | 5 | **Cover** with Gasket Ref. 5a | C–9475–2 |
| 194764 | 5a | **Gasket** for Ref. 5 | 8078–1579 |
| | 6 | **Cover Plate** with Gasket Ref. 19 | C–9475–3 |
| 193648 | 7 | **Supporting Bracket** | C–9475–4 |
| 193646 | 8 | **Lamp Unit Support** | C–9475–3 |
| 193777 | 9 | **Gasket** | 8078–1582 |

UNION SWITCH & SIGNAL
DIVISION OF WESTINGHOUSE AIR BRAKE CO.

# Highway Crossing Signals

## DETAIL PARTS

## Style "HC-81" Lamp Units with Combined Junction Box and Cross Arms

**(Continued)**

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **194765** | **10** | **3-Way Terminal Block Complete** (Inc. 1-10a, 12-11, 12-12, 3-13 and 6-14) | 9968–1137 |
| **181830** | **10a** | **3-Way Terminal Block Complete.** Without Nuts, Washers and Connectors | 9968–1100 |
| **29101** | **11** | **Nut** | 8109–193 |
| **29102** | **12** | **Washer** | 7828–139 |
| **40468** | **13** | **Terminal Connector** | 8064–258 |
| **127260** | **14** | **Nut** | 8109–194 |
| | **15** | **Machine Screw,** No. 10-32x⅝″ Fil. Hd. S. (C.N. 52300) (Tin Pl.) | |
| | **16** | **Pipe Plug,** 1¼″ C.I. (C.N. 32910) (Cad. Pl. Double Thickness) | |
| **167609** | **17** | **U-Bolt,** with ⅜″ Hex. Nut (C.N. 48009) (Cad. Pl. Double Thickness) | 8782–189 |
| **193650** | **18** | **Bolt Complete** with Washer Ref. 18a | 8277–137 |
| **193153** | **18a** | **Washer** for Ref. 18 | 7826–295 |
| **196044** | **19** | **Gasket** | 8078–1590 |
| **192495** | **20** | **Bracket** | C–9475–2 |
| **193647** | **21** | **Cap** | C–9475–3 |
| | **22** | **Set Screw,** ¼″x½″ Sq. Hd. Cup Pt. I. (C.N. 50559) (Cad. Pl. Double Thickness) | |
| **192519** | **23** | **Clamp** | C–9475–3 |
| | **24** | **Bolt,** ⅝″x5½″ Sq. Hd. S. (C.N. 46712) with ⅝″ Hex. Nut (C.N. 48020) (Cad. Pl.) for use with 3½″ pipe post | |

# Highway Crossing Signals

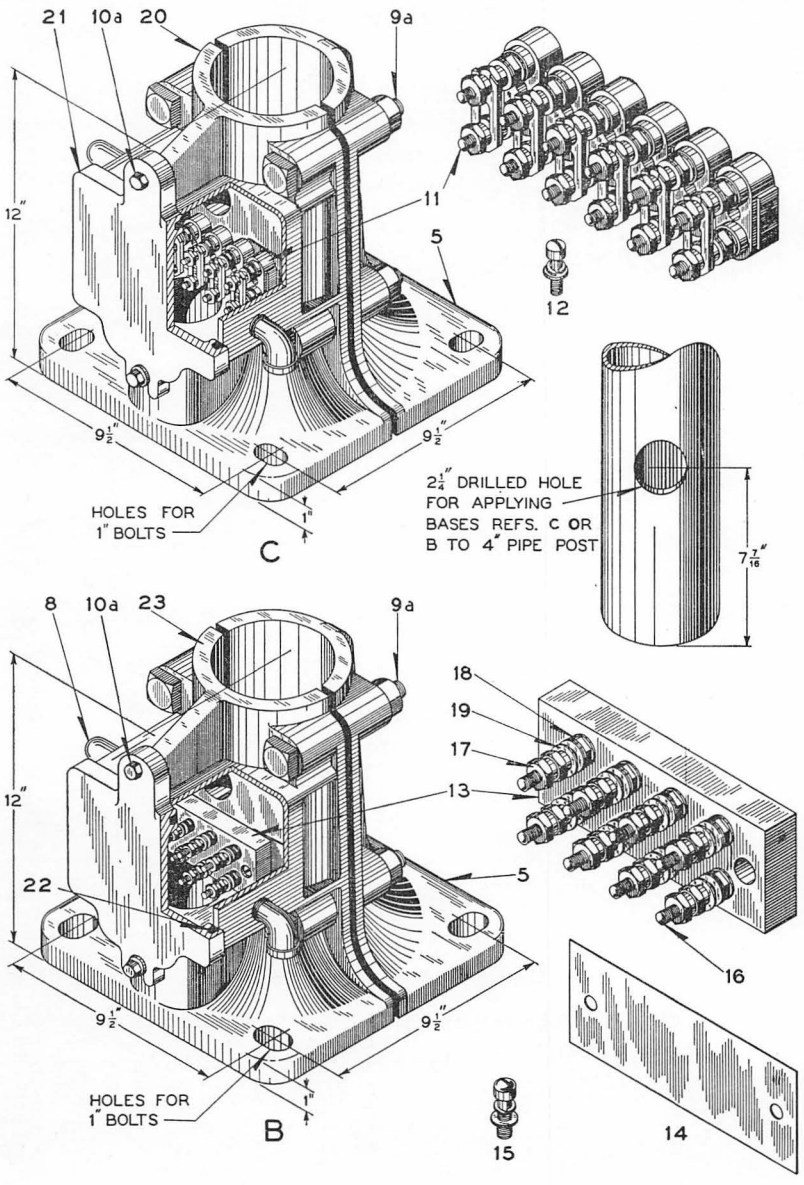
## DETAIL PARTS

## Style "HC-81" Lamp Units with Combined Junction Box and Cross Arms

**(Continued)**

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | **24a** | **Bolt,** 5/8"x6" Sq. Hd. S. (C.N. 46714) with 5/8" Hex. Nut (C.N. 48020) (Cad. Pl.) for use with 4" pipe post | |
| | **24b** | **Bolt,** 5/8"x7 1/2" Sq. Hd. S. (C.N. 46717) with 5/8" Hex. Nut (C.N. 48020) (Cad. Pl.) for use with 5" pipe post | |
| | **24c** | **Bolt** Ref. 24d with 5/8" Hex. Nut (C.N. 48020) (Cad. Pl.) for use with 6" pipe post | |
| **108489** | **24d** | **Bolt Only** | 8277–153 |
| | **24e** | **Bolt** Ref. 24f with 5/8" Hex. Nut (C.N. 48020) (Cad. Pl.) for use with 8" pipe post | |
| **215034** | **24f** | **Bolt Only** | 8277–152 |
| | **25** | **Cap Screw,** 3/8"x7/8" Hex. Hd. S. (C.N. 50052) (Cad. Pl. Double Thickness) with 3/8" Plain S. Lock Washer (C.N. 47779) (Cad. Pl.) | |
| | **26** | **Cap Screw,** 3/8"x2" Hex. Hd. S. (C.N. 50060) (Cad. Pl.) (Double Thickness) | |
| | **27** | **Style "HC-81" Lamp Unit** with 8 3/8" Diameter 30° Spreadlite Cover Glass (For details refer to Plate K-159) | C–9481–3 |




# Combined Base and Terminal Box

# Highway Crossing Signals

## DETAIL PARTS

# Combined Base and Terminal Box

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

**Combined Base and Terminal Box Complete for 4″ Pipe Post**

| Piece | Ref. | Terminal Board | Base | Ventilators | Dwg. Ref. |
|---|---|---|---|---|---|
| **194348** | **B** | Ref. 13 | One Ref. 23<br>One Ref. 5 | With | C–6634–12 |
| **211910** | **Ba** | Without | One Ref. 23a<br>One Ref. 5 | With | C–6634–12 |
| **199534** | **Bb** | Ref. 13 | Two Ref. 23 | With | C–6634–12 |
| | **Bc** | Without | Two Ref. 23a | With | C–6634–12 |
| **191266** | **Bd** | Without | Two Ref. 5 | Without | C–6634–11 |
| **213855** | **C** | Without | One Ref. 20a<br>One Ref. 5 | With | C–6634–12 |
| **215037** | **Ca** | Ref. 11 | One Ref. 20a<br>One Ref. 5 | With | C–6634–12 |
| **215039** | **Cb** | Ref. 11 | Two Ref. 20a | With | C–6634–12 |
| **283286** | **Cc** | Without | Two Ref. 20a | With | C–6634–12 |

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **191265** | **5** | **Half Base Only,** for 4″ Pipe Post | C–6634–11 |
| **70109** | **8** | **Ventilator Complete** | 7318–57 |
| | **9a** | **Bolt,** ¾″x5½″ Sq. Hd. (C.N. 46740) with ¾″ Hex. Nut (C.N. 48026) | |
| | **10** | **Cap Screw,** ⅜″-16x1¼″ Hex. Hd. S. (Cad. Pl.) (C.N. 50053) with ⅜″ S. Plate Washer (Cad. Pl.) (C.N. 47502) for attaching Cover to Terminal Box (Used previous to 10/13/37) | |
| | **10a** | **Bolt,** ½″-13x1½″ Hex. Hd. (C.N. 46218) (Cad. Pl.) for attaching Cover to Terminal Box (Used since 10/13/37) | |

# Highway Crossing Signals

## DETAIL PARTS

## Combined Base and Terminal Box

(Continued)

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | **10b** | **Bolt,** ½″-13x1½″ Hex. Hd. (Cad. Pl.) (C.N. 46218) with ½″ S. Plate Washer (Cad. Pl.) (C.N. 47503) for attaching Cover to Terminal Box (Used since 10/13/37) | |
| **178389** | **11** | **Multiple Unit Bakelite Terminal Board** (6-Way) with No. 14-24 Terminal Posts and Terminal Connectors (For details refer to Ref. 3, Plate P-7300) | 9968–1075 |
| | **12** | **Machine Screw,** No. 10-32x¾″ Fil. Hd. S. (Tin Pl.) (C.N. 52298) with No. 10 Plain S. Lock Washer (Tin Pl.) (C.N. 47733) and Washer Ref. 12a for attaching Ref. 11 to Terminal Box | |
| **1564** | **12a** | **Washer** for Ref. 12 | 8112–1 |
| **194340** | **13** | **Terminal Board** with 5/16″-18 Terminal Posts, Nuts and Washers (Includes 1-13a and 8-16) | 9968–1133 |
| **194339** | **13a** | **Terminal Board Only** for Ref. 13 | 9968–1133 |
| **194347** | **14** | **Insulation** (Used under Ref. 13) | 8750–2703 |
| | **15** | **Machine Screw,** ¼″-20x¾″ Fil. Hd. S. (Tin Pl.) (C.N. 52201) with ¼″ Plain S. Lock Washer (Tin Pl.) (C.N. 47766) and Washer Ref. 15a for attaching Refs. 13 and 14 to Terminal Box | |
| **36073** | **15a** | **Washer** for Ref. 15 | 7828–161 |
| | **16** | **Terminal Post** with Nuts and Washers for Ref. 13 (Includes 1-16a, 2-17, 1-18 and 4-19) | 12451– |
| **194289** | **16a** | **Terminal Post Only** for Ref. 16 | 8094–1080 |
| **194288** | **17** | **Hex. Nut Only** for Ref. 16 | 8109–485 |
| **194345** | **18** | **Hex. Nut Only** for Ref. 16 | 8109–486 |
| **194290** | **19** | **Washer Only,** for Ref. 16 (5/8″ Diam. 21/64″ Hole) | 7828–389 |
| **283288** | **20** | **Half Base with Terminal Box Complete,** for 4″ Pipe Post (Includes 1-20a, 1-11 and 2-12) | C–6634–12 |

# Highway Crossing Signals

## DETAIL PARTS

## Combined Base and Terminal Box

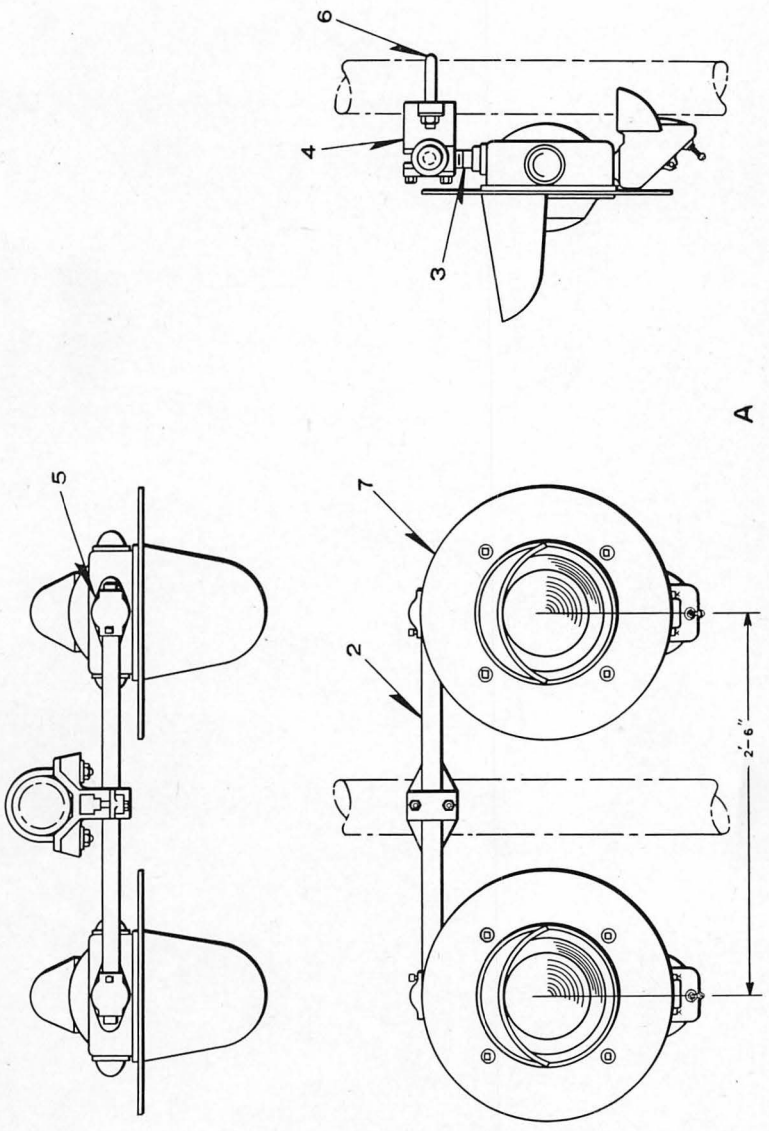
(Continued)

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **283287** | **20a** | **Half Base with Terminal Box Complete,** for 4″ Pipe Post (Includes 1-20b, 1-21, 2-8 and 2-10a)..... | C–6634–12 |
| **213857** | **20b** | **Half Base with Terminal Box Only,** for 4″ Pipe Post | C–6634–12 |
| **219673** | **21** | **Terminal Box Cover** with Gasket Ref. 22..... | C–6634–17 |
| | **22** | **Gasket,** ⅜″ square, 2′-1″ long (C.N. 67069) | |
| **281205** | **23** | **Half Base with Terminal Box Complete** for 4″ Pipe Post (Includes 1-23a, 1-13, 1-14 and 2-15)..... | C–6634–12 |
| | **23a** | **Half Base with Terminal Box Complete** for 4″ Pipe Post (Includes 1-23b, 1-21, 2-8 and 2-10a)..... | C–6634–12 |
| **194141** | **23b** | **Half Base with Terminal Box Only,** for 4″ Pipe Post. | C–6634–12 |

PLATE K-153

UNION SWITCH & SIGNAL CO.




CROSS ARMS AND DETAILS FOR STYLE "HC-7"
HIGHWAY CROSSING SIGNALS

UNION SWITCH & SIGNAL CO.

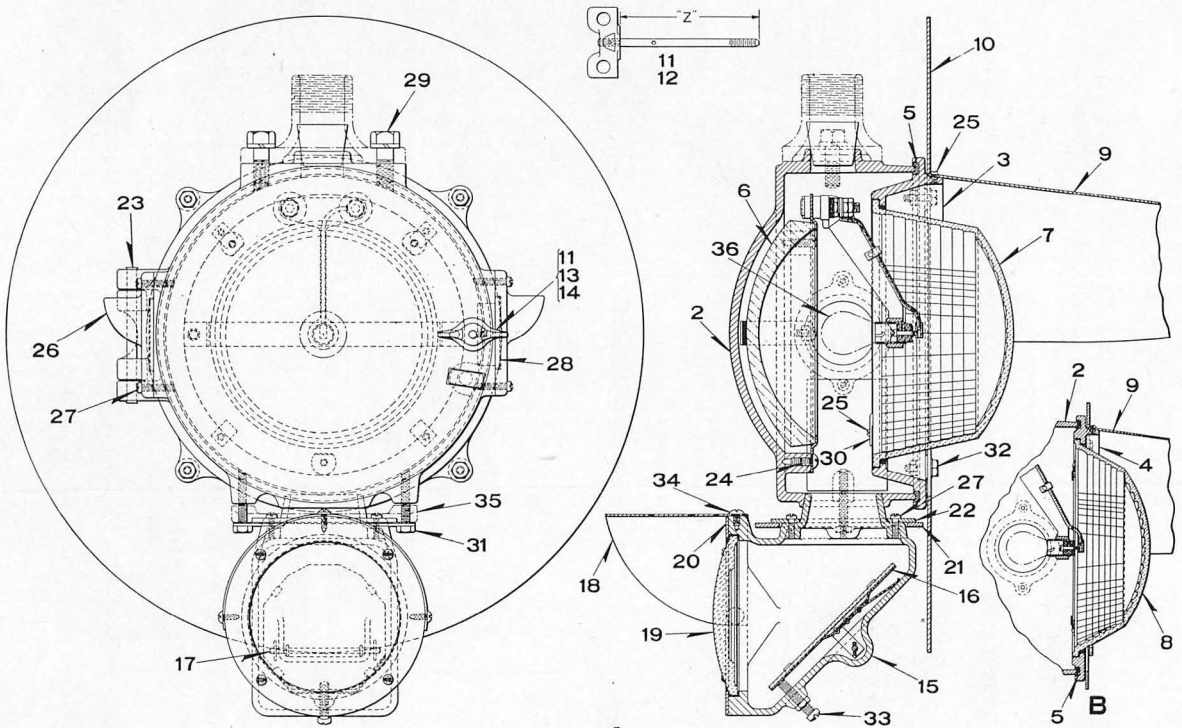
# STYLE "HC-7" HIGHWAY CROSSING SIGNALS
## DETAIL PARTS
## CROSSING ARM AND DETAILS

Unless orders specify otherwise, Lamp Units will be furnished with 11-Volt, 11-Watt Lamps

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| **Cross Arm** with Lamp Units, Adapter and U-Bolt | | | | | | |
|---|---|---|---|---|---|---|
| Piece | Ref. | Lamp Unit | | | Remarks | Drawing Reference |
| | | Size of Lens | Backlight | Background | | |
| | **A** | 9″ | With | With | | B–8912–78 |
| | **Aa** | 9″ | With | Without | | B–8912–78 |
| | **Ab** | 9″ | Without | With | | B–8912–78 |
| | **Ac** | 9″ | Without | Without | | B–8912–78 |
| | **Ad** | 8⅜″ | With | With | | B–8912–78 |
| | **Ae** | 8⅜″ | With | Without | | B–8912–78 |
| | **Af** | 8⅜″ | Without | With | | B–8912–78 |
| | **Ag** | 8⅜″ | Without | Without | | B–8912–78 |

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **148015** | **2** | **Lamp Supporting Arm** | B–12477–6 |
| **130913** | **3** | **Lamp Unit Support** | C–8964–27 |
| **121451** | **4** | **Adapter and Cap** | C–8964–20 |
| **148916** | **5** | **Tee, 1¼″x1¼″x1½″** M. I. Black Reducing with two ½″x¾″ Sq. Hd. Cup Pt. Iron Set Screws | C–8964–30 |
| **172193** | **6** | **U-Bolt** with ½″ Hex. Nuts and ½″ S. Plate Washers | 8782–108 |
| | **7** | **Lamp Unit** (For details refer to Plate K-157) | C–8965– |




STYLE "HC-7" HIGHWAY CROSSING SIGNALS
LAMP UNITS

UNION SWITCH & SIGNAL CO.

# STYLE "HC-7" HIGHWAY CROSSING SIGNALS

## DETAIL PARTS

## LAMP UNITS

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

**Style "HC-7" Lamp Unit** with 8 3/8" Red Color Glass (Without Lamp Bulb)

| Piece | Ref. | Backlight | Side Lights | Background | Cover Glass | | Drawing Reference |
|---|---|---|---|---|---|---|---|
| | | | Color | | Dia. | Color | |
| **168990** | **A** | With | Clear | With | 8 3/8" | Red | C–8965–46 |
| **168989** | **Aa** | With | Clear | Without | 8 3/8" | Red | C–8965–46 |
| **168988** | **Ab** | Without | Clear | With | 8 3/8" | Red | C–8965–46 |
| **168987** | **Ac** | Without | Clear | Without | 8 3/8" | Red | C–8965–46 |

**Style "HC-7" Lamp Unit** with 9" Red Color Glass (Without Lamp Bulb)

| Piece | Ref. | Backlight | Side Lights | Background | Cover Glass | | Drawing Reference |
|---|---|---|---|---|---|---|---|
| | | | Color | | Dia. | Color | |
| **170188** | **B** | With | Clear | With | 9 " | Red | C–8965–46 |
| **169777** | **Ba** | Without | Clear | With | 9 " | Red | C–8965–46 |
| **169776** | **Bb** | Without | Clear | Without | 9 " | Red | C–8965–46 |
| | **Bc** | With | Clear | Without | 9 " | Red | C–8965–46 |

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **169141** | **2** | **Case only** | C–8964–85 |
| | **3** | **Lens Support,** with Gasket Ref. 5 for 8 3/8" Lens | C–8964–86 |
| | **4** | **Lens Support,** with Gasket Ref. 5 for 9" Lens | C–8964–88 |

UNION SWITCH & SIGNAL CO.

## STYLE "HC-7" HIGHWAY CROSSING SIGNALS (Continued)

## DETAIL PARTS

## LAMP UNITS

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **146038** | **5** | **Gasket** for Refs. 3 and 4 | 8078–717 |
| **148058** | **6** | **Reflector** (For details refer to Ref. D Plate K-127) | C–8964–63 |
| **151534** | **7** | **Red Cover Glass, 8⅜″** diameter | B–8276–50 |
| **147869** | **8** | **Red Cover Glass, 9″** diameter | B–8276–42 |
| **169790** | **9** | **Hood** | C–8964–62 |
| **168992** | **10** | **Background, 20″** diameter | C–8964–84 |
| **169169** | **11** | **Wing Screw** for Refs. A, Aa, Ab, and Ac ("Z" dimension $4\frac{11}{16}$″) | 8331–73 |
| **171557** | **12** | **Wing Screw** for Refs. B, Ba, Bb and Bc ("Z" dimension 5″) | 8331–73 |
| **147448** | **13** | **Washer** for Refs. 11 and 12 | 8078–422 |
| | **14** | **Cotter Pin,** $\frac{1}{16}$″x½″ S. (Cad. Pl.) for Refs. 11 and 12. | |
| **169333** | **15** | **Backlight Case** | C–8964–82 |
| **169423** | **16** | **Reflector Assembly Complete** | C–8964–83 |
| **169327** | **16a** | **Reflector only** | 12523–3 |
| **169393** | **17** | **Pin,** ¼″x3¼″ with two $\frac{1}{16}$″x½″ S. Cotters | 8097–548 |
| **169454** | **18** | **Hood** | C–9133–3 |
| **169594** | **19** | **Red Lens, 5″** diameter | B–8276–64 |
| **129899** | **20** | **Lens Ring** | 7436–128 |
| **169391** | **21** | **Clamp Ring** | C–8964–84 |
| **169392** | **22** | **Retaining Ring** | C–8964–84 |

UNION SWITCH & SIGNAL CO.

## STYLE "HC-7" HIGHWAY CROSSING SIGNALS (Continued)

### DETAIL PARTS

### LAMP UNITS

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **145984** | **23** | **Pin** | B–10206–1 |
| | **24** | **Machine Screw, No. 14-24x3/8″** Rd. Hd. S. (Cad. Pl.) for attaching Reflector to Case. | |
| | **25** | **Machine Screw, No. 10-30x1/4″** Rd. Hd. S. (Cad. Pl.) for attaching Hood and Clips to Lens Support. | |
| **124375** | **26** | **Hood** | C–8964–22 |
| | **27** | **Machine Screw, No. 10-30x5/8″** Fil. Hd. S. (Cad. Pl.) for attaching Refs. 21, 22 and 26 to Case Ref. 15. | |
| **111888** | **28** | **Glass Shield** | 8163–222 |
| | **29** | **Tap Bolt, 1/2″x1 1/4″** Hex. Hd. S. (Cad. Pl.) with 1/2″ Plain S. Lock Washer (3/16″x3/32″) (Cad. Pl.). | |
| **169707** | **30** | **Clip** | 11893–568 |
| | **31** | **Tap Bolt, 1/4″-20x1 1/2″** Hex. Hd. S. (Cad. Pl.) for attaching Backlight to Lens Unit. | |
| | **32** | **Machine Bolt, 1/4″-20x7/8″** Sq. Hd. S. (Cad. Pl.) with 1/4″ Hex. Nut (Cad. Pl.) 1/4″ Plate Washer (Cad. Pl.) and 1/4″ Pl. S. Lock Washer (1/8″x1/16″) (Cad. Pl.) for attaching Background to Lens Unit. | |
| **47822** | **33** | **Screw** with Nut Ref. 33a | 8098–862 |
| **29103** | **33a** | **Nut** for Ref. 33 | 8109–194 |
| | **34** | **Machine Screw, No. 10-30x5/16″** Rd. Hd. S. (Cad. Pl.) for attaching Hood and Lens Ring to Case Ref. 15. | |
| **169132** | **35** | **Cover Plate** (used when Backlight is not used) | C–8964–87 |
| **145877** | **36** | **Lamp Bulb,** 11-Volt, 11-Watt, Single Filament | B–12409–18 |
| **151138** | **36a** | **Lamp Bulb,** 10-Volt, 18-Watt, Single Filament | B–12409–18 |

PLATE K-157

UNION SWITCH & SIGNAL CO.

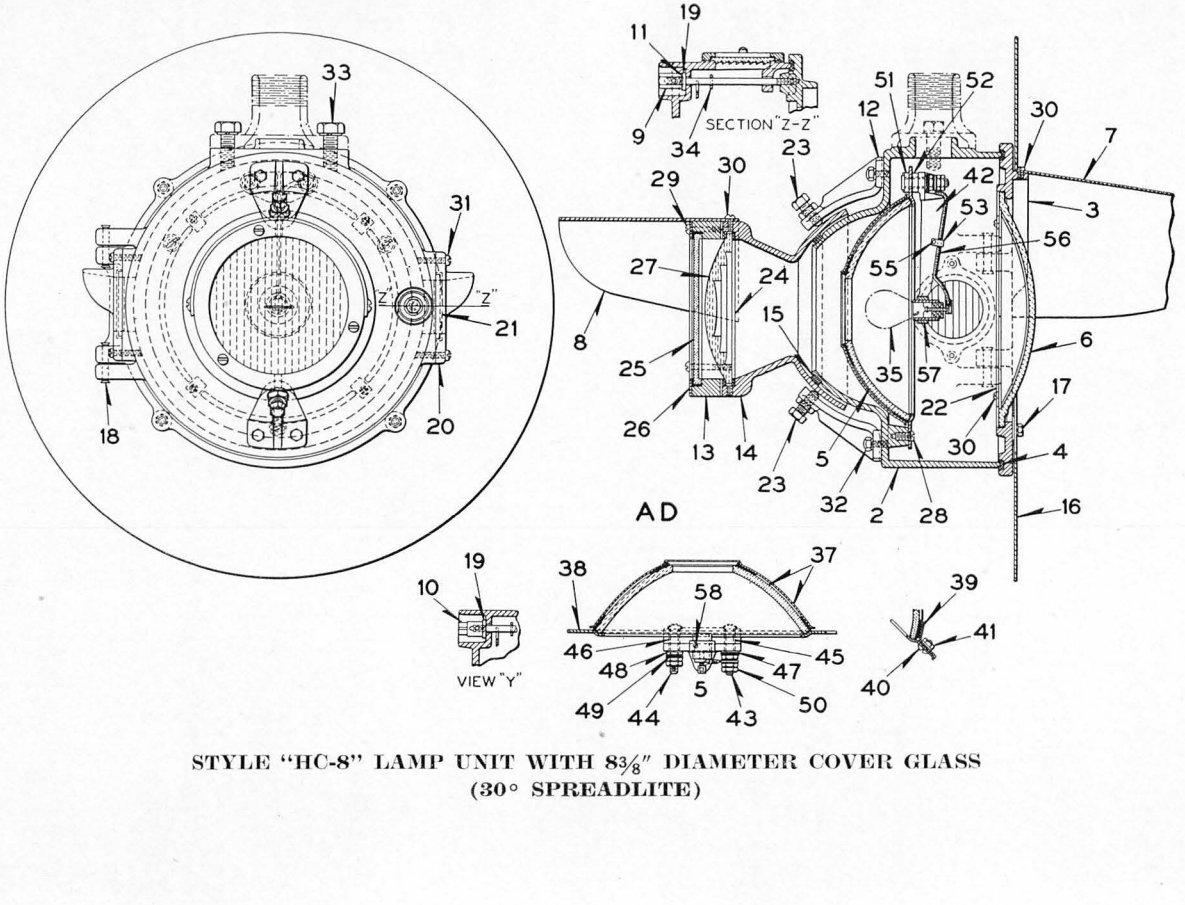
STYLE "HC-7" HIGHWAY CROSSING SIGNALS
(Continued)

## DETAIL PARTS

## LAMP UNITS

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **151167** | **36b** | **Lamp Bulb,** 10-Volt, 18-Watt, Double Filament..... | B–12409–18 |
| **146930** | **36c** | **Lamp Bulb,** 10-Volt, 10-Watt, Single Filament..... | B–12409–18 |
| **142967** | **36d** | **Lamp Bulb,** 8-Volt, 10-Watt, Single Filament..... | B–12409–18 |
| **148970** | **36e** | **Lamp Bulb,** 10-Volt, 5-Watt, Single Filament..... | B–12409–18 |




STYLE "HC-8" LAMP UNIT WITH 8 3/8" DIAMETER COVER GLASS
(30° SPREADLITE)

UNION SWITCH & SIGNAL CO.

## HIGHWAY GRADE CROSSING SIGNALS
(Continued)

## DETAIL PARTS

### STYLE "HC-8" LAMP UNIT WITH 8 3/8" DIAMETER COVER GLASS (30° SPREADLITE)

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | 33 | **Tap Bolt,** 1/2"x1 1/4" Hex. Hd. S. with 1/2" Plain Lock Washer (3/16"x3/32") Cad. Pl. | |
| | 34 | **Cotter,** 1/16"x1 1/2" S. (Cad. Pl.) | |
| 145877 | 35 | **Lamp Bulb,** 11-Volt, 11-Watt, Single Filament | B–12409–18 |
| 151138 | 35a | **Lamp Bulb,** 10-Volt, 18-Watt, Single Filament | B–12409–18 |
| 151167 | 35b | **Lamp Bulb,** 10-Volt, 18-Watt, Double Filament | B–12409–18 |
| 146930 | 35c | **Lamp Bulb,** 10-Volt, 10-Watt, Single Filament | B–12409–18 |
| 142967 | 35d | **Lamp Bulb,** 8-Volt, 10-Watt, Single Filament | B–12409–18 |
| 148970 | 35e | **Lamp Bulb,** 10-Volt, 5-Watt, Single Filament | B–12409–18 |
| 191859 | 35f | **Lamp Bulb,** 11.3-Volts, 14.4 plus 3 1/2-Watt, special double filament | B–12409–24 |
| 159440 | 35g | **Lamp Bulb,** 8-Volt, 13 plus 3 1/2-Watt, special double filament | B–12409–24 |
| 182814 | 35h | **Lamp Bulb,** 10-Volt, 13 plus 3 1/2-Watt, special double filament | B–12409–24 |
| 168741 | 35j | **Lamp Bulb,** 8-Volt, 5-Watt single filament | B–12409–18 |
| 192057 | 35k | **Lamp Bulb,** 8-Volt, 5 plus 3 1/2-Watt, special double filament | B–12409–24 |
| 191673 | 37 | **Reflector Complete** | C–8964–111 |
| 177507 | 38 | **Ring** | 7436–143 |
| 177015 | 39 | **Clip** | 11893–633 |
| | 40 | **Machine Screw,** No. 10-30x3/8" Rd. Hd. S. (Cad. Pl.) with No. 10 Plain S. Lock Washer (1/8"x3/64") Cad. Pl. and Hex. Nut Ref. 41. | |

UNION SWITCH & SIGNAL CO.

## HIGHWAY GRADE CROSSING SIGNALS
(Continued)

## DETAIL PARTS

## STYLE "HC-8" LAMP UNIT WITH 8 3/8" DIAMETER COVER GLASS (30° SPREADLITE)

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **73488** | **41** | **Hex. Nut Only** for Ref. 40 | 8265–111 |
| **176851** | **42** | **Lamp Socket Support** | C–8964–94 |
| | **43** | **Terminal Post Complete** with Ins. Bushing, Ins. Washers, Nuts and Washers (Includes 1-43a, 1-45, 4-47, 1-48, 2-49 and 3-50) | 12451– |
| **40066** | **43a** | **Terminal Post Only** for Refs. 43 and 44 | 8094–797 |
| | **44** | **Terminal Post Complete** with Ins. Bushing, Nuts and Washers (Inc. 1-43a, 1-46, 1-48, 2-49 and 3-50) | 12451– |
| **52792** | **45** | **Ins. Bushing** (27/32" long) for Ref. 43 | B–10270–1 |
| **75670** | **46** | **Ins. Bushing** (23/32" long) for Ref. 44 | B–10270–1 |
| **9468** | **47** | **Ins. Washer** for Ref. 43 | 8078–76 |
| **29104** | **48** | **Washer Only** for Refs. 43 and 44 | 7828–138 |
| **29102** | **49** | **Washer Only** for Refs. 43 and 44 | 7828–139 |
| **29103** | **50** | **Hex. Nut Only** for Refs. 43 and 44 | 8109–194 |
| **148723** | **51** | **Terminal Board** | 9968–835 |
| **152817** | **52** | **Terminal Board** | 9968–889 |
| **147988** | **53** | **Clip** | 11893–393 |
| **54920** | **55** | **Rivet** | 10301–1 |
| **31094** | **56** | **Lead** | B–9991–1 |
| **179004** | **57** | **Lamp Socket** | 12415–40 |
| | **58** | **Machine Screw**, No. 6-40x1/4" Rd. Hd. Br. | |

UNION SWITCH & SIGNAL CO.

## HIGHWAY GRADE CROSSING SIGNALS

## DETAIL PARTS

### STYLE "HC-8" LAMP UNIT WITH 8 3/8" DIAMETER COVER GLASS (30° SPREADLITE)

If Units with Special Locking Stud for Raco Key shown in View "Y" are desired orders should so state.

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **181317** | **AD** | **Style "HC-8" Lamp Unit** with 8 3/8" Diameter Red Cover Glass (30° Spreadlite) 20" Diameter Background and Backlight (Without Lamp Bulb) | C–9481–1 |
| **177881** | **Ae** | **Style "HC-8" Lamp Unit** with 8 3/8" Diameter Red Cover Glass (30° Spreadlite) and Backlight (Without Background and Lamp Bulb) | C–9481–1 |
| **177567** | **2** | **Case Only** | C–8964–95 |
| | **3** | **Door** with Gasket Ref. 4 | C–8964–97 |
| **177613** | **4** | **Gasket** | 8078–1449 |
| **186258** | **5** | **Reflector Assembly Complete** as shown | C–8964–96 |
| **175966** | **6** | **Red Cover Glass,** 8 3/8" Diameter (30° Spreadlite) | B–8276–69 |
| **147975** | **7** | **Hood** | C–8964–62 |
| **177413** | **8** | **Hood** | C–8964–93 |
| **177880** | **9** | **Locking Stud Complete** (fits 14-24 hex. nut wrench) | 8114–803 |
| **177710** | **10** | **Locking Stud Complete** (for Raco Key) | 8114–799 |
| **38149** | **11** | **Washer** | 7826–98 |
| **177363** | **12** | **Bracket** | C–8964–94 |
| **178055** | **13** | **Lens Ring** for Backlight | C–8964–98 |
| **176850** | **14** | **Lens Holder** for Backlight | C–8964–94 |
| **174091** | **15** | **Gasket** | 8078–1449 |
| **168992** | **16** | **Background,** 20" Diameter | C–8964–84 |

UNION SWITCH & SIGNAL CO.

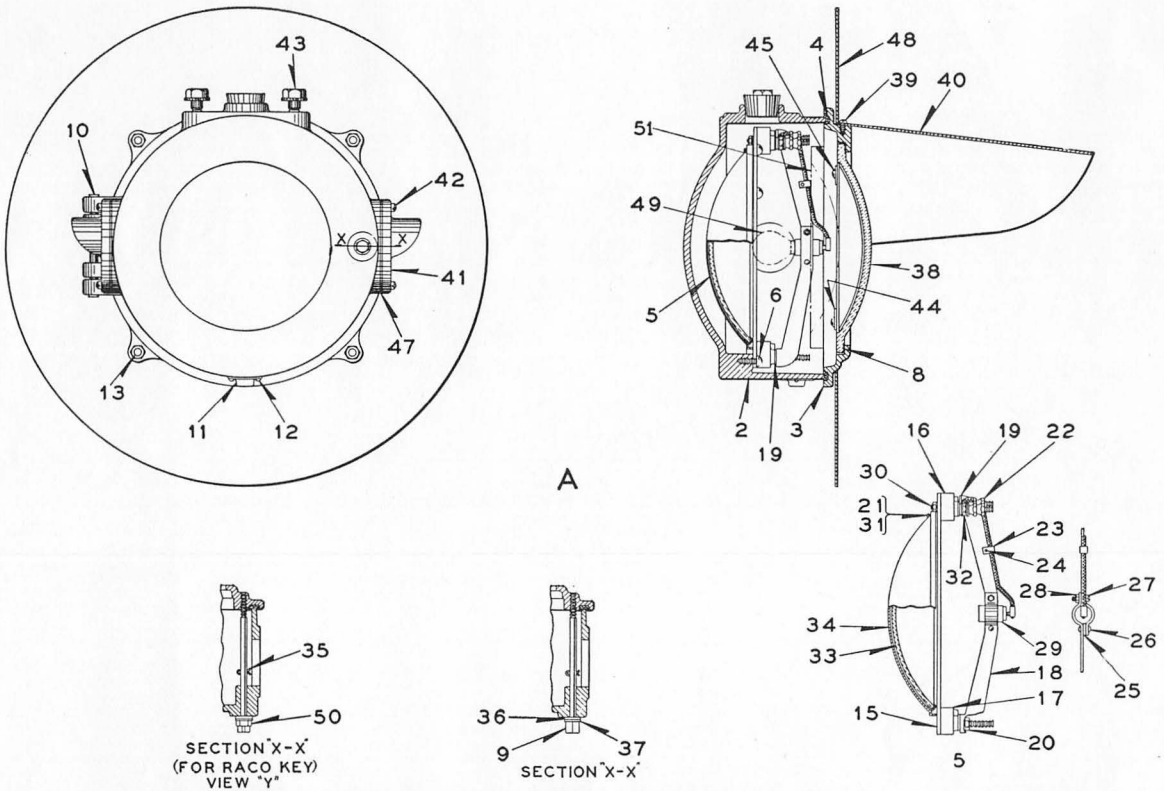
## HIGHWAY GRADE CROSSING SIGNALS
(Continued)

### DETAIL PARTS

### STYLE "HC-8" LAMP UNIT WITH 8 3/8" DIAMETER COVER GLASS (30° SPREADLITE)

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | 17 | **Tap Bolt,** 1/4"x3/4" Hex. Hd. S. with 1/4" Plain S. Lock Washer (1/8"x1/16") Cad. Pl. (for attaching background to unit) | |
| 174125 | 18 | **Pin,** 5/16"x1 9/16" Br. | B–10206–1 |
| 177715 | 19 | **Washer** | 8078–422 |
| 124375 | 20 | **Hood** for Side Lights | C–8964–22 |
| 125749 | 20a | **Cover** for Units without Side Lights (Not shown) | C–8964–22 |
| 129269 | 21 | **Side Light Deflecting Prism** (Clear) 2 5/16" Diameter | B–8276–33 |
| 169707 | 22 | **Clip** | 11893–568 |
| | 23 | **Tap Bolt,** 3/8"-16x1 1/8" Hex. Hd. S. with 3/8" Std. Hex. Jam Nut (Cad. Pl.) | |
| 157256 | 24 | **Gasket** | 8078–121 |
| 176909 | 25 | **Red Deflecting Prism,** 5 3/8" Diameter for Backlight | B–8276–71 |
| 161117 | 26 | **Lens Ring** for Backlight | 7436–147 |
| 66833 | 27 | **Clear Backlight Lens,** 5 3/8" Diameter | B–8276–18 |
| | 28 | **Machine Screw,** 1/4"-20x3/8" Rd. Hd. S. (Cad. Pl.) | |
| | 29 | **Machine Screw,** No. 10-30x1 3/8" Rd. Hd. Br. (N. P.) | |
| | 30 | **Machine Screw,** No. 10-30x1/4" Rd. Hd. Br. (N. P.) | |
| | 31 | **Machine Screw,** No. 10-30x5/8" Fil. Hd. Br. (N. P.) | |
| | 32 | **Cap Screw,** 1/4"-20x3/4" Hex. Hd. S. with 1/4" Plain Lock Washer (1/8"x1/16") Cad. Pl. | |




# Style "HC-81" Lamp Unit

UNION SWITCH & SIGNAL
DIVISION OF WESTINGHOUSE AIR BRAKE CO.

# Highway Grade Crossing Signals

## DETAIL PARTS

## Style "HC-81" Lamp Units with 8⅜" Diameter Red Cover Glass (30° Horizontal Spreadlite, 15° Downward Deflection)

**If any of the following material is desired, orders should so state:**

(a) **Locking Stud per View "Y" for Raco Key.**
(b) **Cover Glass other than 30° Horizontal Spreadlite, 15° Downward Deflection.** (See Refs. 38a to 38d inclusive)
(c) **Phankill Unit Ref. 51 as shown in dot and dash lines.**

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **193766** | **A** | **Style "HC-81" Lamp Unit** with 8⅜" Diameter Red Cover Glass (30° Spreadlite—15° Downward Deflection) and 20" Diameter Background (Without Lamp Bulb) | C–9481–3 |
| **193602** | **Aa** | **Style "HC-81" Lamp Unit** with 8⅜" Diameter Red Cover Glass (30° Spreadlite—15° Downward Deflection) (Without Background and Lamp Bulb). | C–9481–3 |
| **193592** | **2** | **Case Only** | C–9482–1 |
| **207510** | **3** | **Door** with Gasket Ref. 4 | C–8964–89 |
| **146038** | **4** | **Gasket** | 8078–717 |
| **207835** | **5** | **Reflector Assembly Complete** as shown | C–9482–4 |
| | **6** | **Machine Screw,** No. 14-24x⅜" Rd. Hd. S. (C.N. 52580) (Tin Pl.) | |
| **111888** | **7** | **Glass Shield (Clear)** for side lights (2¼" Diameter) (Not shown) | 8163–222 |
| **192759** | **8** | **Gasket** | 8078–1499 |
| **192919** | **9** | **Locking Stud** (Fits 14-24 Hex. Nut Wrench) | 8114–803 |
| **145984** | **10** | **Pin** | B–10206–1 |
| **170243** | **11** | **Ventilator** | 11893–573 |
| | **12** | **Drive Screw,** No. 4x¼" Rd. Hd. Hardened (C.N. 52501) (Cad. Pl.) | |

# Highway Grade Crossing Signals

## DETAIL PARTS

## Style "HC-81" Lamp Units with 8⅜" Diameter Red Cover Glass (30° Horizontal Spreadlite, 15° Downward Deflection)

**(Continued)**

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | 13 | **Bolt,** ¼"-20x1" Sq. Hd. (C.N. 46606) (Tin Pl.) with ¼" Hex. Nut (C.N. 48002) (Tin Pl.), ¼" S. Plate Washer (C.N. 47501) (Tin Pl.) and ¼" Plain S. Lock Washer (C.N. 47766) (Tin Pl.) | |
| **193593** | 15 | **Retaining Ring** | C–9482–2 |
| | 16 | **Terminal Block Complete** with two Terminal Posts, Nuts and Washers (Inc. 1-16a, 7-19, 2-32 and 4-22) | 9968–1128 |
| **193599** | 16a | **Terminal Block** (With two Terminal Posts) Without Nuts and Washers | 9968–1128 |
| | 17 | **Terminal Block Complete** with one Terminal Post, Nut and Washers (Inc. 1-17a, 1-19 and 2-20) | 9968–1128 |
| **193598** | 17a | **Terminal Block** (With one Terminal Post) Without Nuts and Washers | 9968–1128 |
| **193596** | 18 | **Receptacle Holder** | C–9482–2 |
| **29102** | 19 | **Washer** | 7828–139 |
| **29103** | 20 | **Nut** | 8109–194 |
| **93420** | 21 | **Nut** | 8265–128 |
| **29101** | 22 | **Nut** | 8109–193 |
| **147988** | 23 | **Clip** | 11893–393 |
| **54920** | 24 | **Rivet** | 10301–1 |
| **192815** | 25 | **Spacer** | 7828–377 |
| | 26 | **Rivet,** $\frac{5}{32}$"x$\frac{5}{16}$" Rd. Hd. Ph. Bz. (C.N. 49081) (N. Pl.) | |
| | 27 | **Machine Screw,** No. 8-36x⅜" Fil. Hd. Br. (C.N. 51263) (N. Pl.) | |
| **32498** | 28 | **Nut** | 8109–223 |
| **179004** | 29 | **Lamp Receptacle** | 12415–40 |

# Highway Grade Crossing Signals

## DETAIL PARTS

## Style "HC-81" Lamp Units with 8⅜" Diameter Red Cover Glass (30° Horizontal Spreadlite, 15° Downward Deflection)

(Continued)

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | 30 | **Machine Screw,** No. 10-32x¾" Fil. Hd. S. (C.N. 52298) (Tin Pl.) with No. 10 Plain S. Lock Washer (C.N. 47733) (Tin Pl.) and No. 10-32 S. Hex. Nut (C.N. 48172) (Tin Pl.) | |
| | 31 | **Machine Screw,** No. 14-24x½" Rd. Hd. S. (C.N. 52582) (Tin Pl.) with ¼" Plain S. Lock Washer (C.N. 47775) (Tin Pl.) | |
| 127260 | 32 | **Nut** | 8109–194 |
| 293215 | 33 | **Reflector Complete** with Gasket Ref. 33a | B–12652–15 |
| 293214 | 33a | **Gasket** | 8078–1858 |
| 193594 | 34 | **Reflector Holder** | C–9482–2 |
| | 35 | **Cotter,** 1/16"x½" S. (C.N. 48603) (Tin Pl.) | |
| 177715 | 36 | **Washer** | 8078–422 |
| 38149 | 37 | **Washer** | 7826–98 |
| 102922 | 38 | **Red Cover Glass,** 8⅜" Diameter (30° Horizontal Spreadlite, 15° Downward Deflection) | B–8276–83 |
| 175966 | 38a | **Red Cover Glass,** 8⅜" Diameter (30° Horizontal Spreadlite) | B–8276–69 |
| 207470 | 38b | **Red Cover Glass,** 8⅜" Diameter (70° Spreadlite) | B–8276–81 |
| 169071 | 38c | **Red Cover Glass,** 8⅜" Diameter (No. 275 Convex Diffusing) | B–8276–60 |
| 107666 | 38d | **Red Cover Glass,** 8⅜" Diameter (20° Horizontal Spreadlite, 32° Downward Deflection) | B–8276–84 |
| | 39 | **Machine Screw,** No. 10-32x¼" Rd. Hd. Br. (C.N. 51664) (N. Pl.) | |

# Highway Grade Crossing Signals

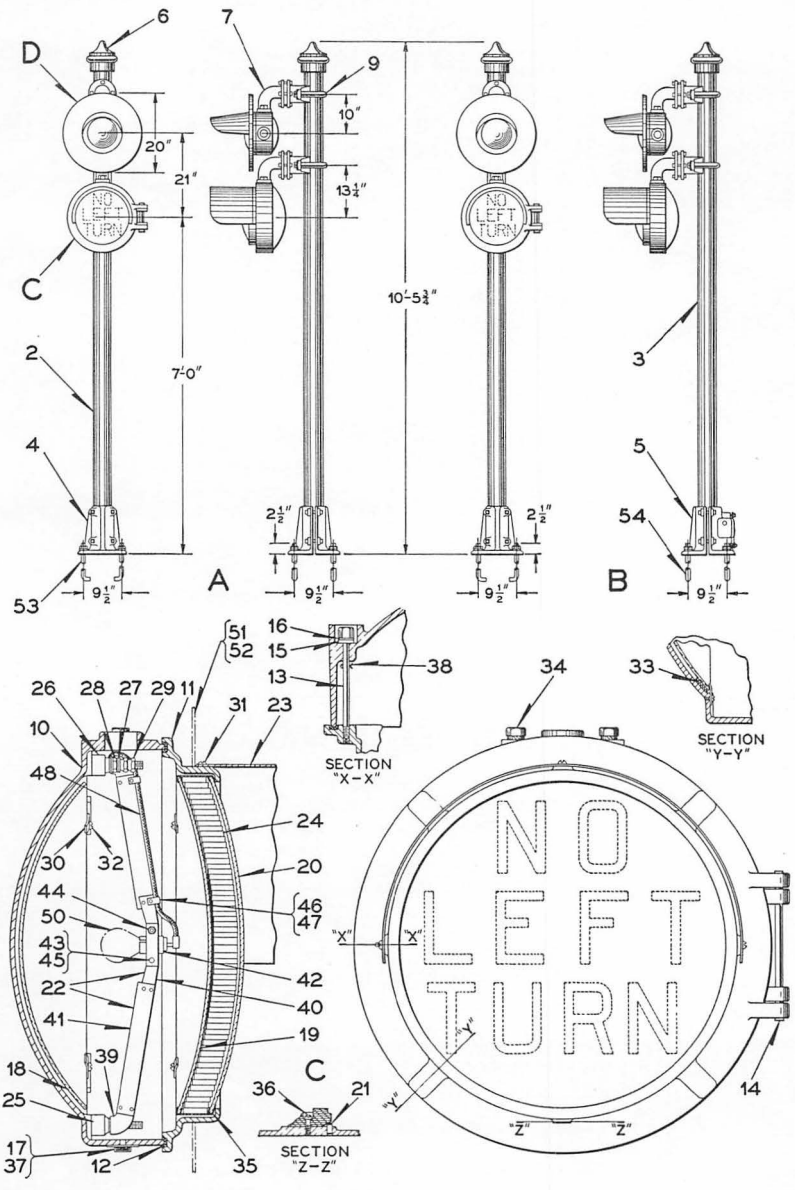
## DETAIL PARTS

## Style "HC-81" Lamp Units with 8⅜″ Diameter Red Cover Glass (30° Horizontal Spreadlite, 15° Downward Deflection)

(Continued)

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **147975** | **40** | **Hood** | C–8964–62 |
| **124375** | **41** | **Hood** for Side Lights | C–8964–22 |
| **125749** | **41a** | **Cover** for Units without Side Lights (Not shown) | C–8964–22 |
| | **42** | **Machine Screw,** No. 10-32x⅝″ Fil. Hd. Br. (C.N. 51299) (N. Pl.) | |
| | **43** | **Tap Bolt,** ½″x1¼″ Hex. Hd. S. (C.N. 46447) (Cad. Pl.) with ½″ Plain S. Lock Washer (C.N. 47769) (Cad. Pl.) | |
| **169707** | **44** | **Clip** | 11893–568 |
| | **45** | **Machine Screw,** No. 10-32x½″ Rd. Hd. Br. (C.N. 51668) (N. Pl.) | |
| **196349** | **46** | **Gasket** for Ref. 7 (Not shown) | 8078–1499 |
| **196350** | **47** | **Gasket** | 8078–1592 |
| **168992** | **48** | **Background,** 20″ Diameter | C–8964–84 |
| **151138** | **49** | **Lamp,** 10-Volt, 18-Watt, Single Filament | 12409–12 |
| **199335** | **50** | **Locking Stud Complete** (For Raco Key) | 8114–803 |
| **207075** | **51** | **Phankill Unit** | C–9482–7 |




# Style "HC-9" Illuminated Sign

# Style "HC-9" Illuminated Sign

**Unless otherwise specified, all signals listed on this plate will be furnished with dimensions as shown, Style "HC-81" Unit with 10-Volt, 18-Watt Lamp and Style "HC-9" Unit with 10-Volt, 25-Watt Lamp.**

**Unless otherwise specified Style "HC-9" Illuminated Sign Unit will be furnished without Background Ref. 51.**

**If Locking Stud Ref. 49 (for Raco Key) instead of Locking Stud Ref. 13 is desired orders should so state.**

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | A | **Style "HC-9" Illuminated Sign** with Yellow Style "HC-81" Flasher Unit, 4″ Pipe Post, Base Ref. 4, Foundation Bolts and Adapter Brackets (Orders should specify legend desired on "HC-9" Unit).. | B–8912–133 |
| | B | **Style "HC-9" Illuminated Sign** with Yellow Style "HC-81" Flasher Unit, 4″ Pipe Post, Base Ref. 5, Foundation Bolts and Adapter Brackets (Orders should specify legend desired on "HC-9" Unit).... | B–8912–133 |
| | C | **Style "HC-9" Illuminated Sign Complete** with Adapter Bracket and U-Bolt. Orders should specify Glass Stencil required by referring to Refs. 19 or 19a and size of Pipe Post so proper U-Bolt will be furnished. (Without Lamp Bulb Ref. 50)..... | C–16646–1 |
| | D | **Style "HC-81" Lamp Unit** with 8⅜″ diameter Yellow Cover Glass (30° Spreadlite), 20″ diameter Background, Adapter Bracket and U-Bolt (Orders should specify size of Pipe Post so proper U-Bolt will be furnished) (Without Lamp Bulb) Same as Ref. A, Plate K-159 except with Yellow Cover Glass..... | C–9481–3 |
| 210296 | 2 | **4″ Pipe Post** with Base Ref. 4 and Holes drilled for wires, for Ref. A (10′-3″ from bottom of Base to top of Post)..... | B–9893–383 |
| 217620 | 3 | **4″ Pipe Post** with Base Ref. 5 and Holes drilled for wires, for Ref. B (10′-3″ from bottom of Base to top of Post)..... | B–9893–377 |
| 136947 | 4 | **Clamp Base Complete** for Ref. 2..... | C–6634–7 |
| 215037 | 5 | **Combined Base and Terminal Box Complete** for Ref. 3 (For details refer to Plate K-152)..... | C–6634–16 |
| 145739 | 6 | **Pinnacle** with ½″x1½″ Hex. Hd. Tap Bolt (C.N. 46449) and Square Nut (C.N. 48240)..... | B–8121–10 |
| 104823 | 7 | **Adapter Bracket** for attaching Units to Post..... | C–9482–13 |

# Style "HC-9" Illuminated Sign

(Continued)

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| 172193 | 9 | **U-Bolt** with ½″ Plate Washers (C.N. 47503) (Cad. Pl.) and Hex. Nuts (C.N. 48013) (Cad. Pl.) for 4″ Pipe | 8782–108 |
| 183844 | 9a | **U-Bolt** with ½″ Plate Washers (C.N. 47503) (Cad. Pl.) and Hex. Nuts (C.N. 48013) (Cad. Pl.) for 5″ Pipe or Casing | 8782–195 |
| 189475 | 9b | **U-Bolt** with ½″ Plate Washers (C.N. 47503) (Cad. Pl.) and Hex. Nuts (C.N. 48013) (Cad. Pl.) for 6″ Pipe | 8782–198 |
| 207951 | 10 | **Case** | C–16647–1 |
| 279528 | 11 | **Door** with Gasket Ref. 12 (For use without Background Ref. 51) | C–16647–2 |
| | 11a | **Door** with Gasket Ref. 12 (For use with Background Ref. 51) | C–16647–2 |
| 207916 | 12 | **Gasket** for Doors Refs. 11 and 11a | 8078–1579 |
| 177880 | 13 | **Locking Stud** (fits 14-24 Hex. Nut Wrench) | 8114–803 |
| 210214 | 14 | **Pin** | B–10206–1 |
| 177715 | 15 | **Washer** | 8078–422 |
| 38149 | 16 | **Washer** | 7826–98 |
| 170243 | 17 | **Ventilator** | 11893–573 |
| 210210 | 18 | **Reflector** | B–12652–16 |
| 224781 | *19 | **Glass Stencil Complete** with Wicking, 14″ diameter (No Left Turn) (Clear Letters on Black Background) | 8163–314 |
| 224780 | *19a | **Glass Stencil Complete** with Wicking, 14″ diameter (No Right Turn) (Clear Letters on Black Background) | 8163–313 |
| 221718 | 20 | **Convex Cover Glass,** 14″ diameter (Clear) | 8163–315 |
| 187235 | 21 | **Pin** | 8097–466 |
| 207953 | 22 | **Receptacle Holder Complete** (Includes 2-39, 2-40, 2-41, 1-42, 1-43, 1-44, 1-45, 2-46, 8-47 and 1-48) | C–16647–5 |
| 207915 | 23 | **Hood** | C–16647–4 |
| | | *Note: Glass stencils having legends other than those listed can be furnished upon request | |

# Style "HC-9" Illuminated Sign

(Continued)

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **207911** | **24** | **Phankill Unit Complete** | C–16647–3 |
| | **25** | **Terminal Block** with Nuts and Washer (Includes 1-25a, 1-27 and 2-28) | 9968–1128 |
| **193598** | **25a** | **Terminal Block** with Terminal Post (Without Nuts and Washer) | 9968–1128 |
| | **26** | **Terminal Block** with Nuts and Washers (Includes 1-26a, 7-27, 2-28, and 4-29) | 9968–1128 |
| **193599** | **26a** | **Terminal Block** with Terminal Posts (Without Nuts and Washers) | 9968–1128 |
| **29102** | **27** | **Washer** | 7828–139 |
| **127260** | **28** | **Nut** | 8109–194 |
| **29101** | **29** | **Nut** | 8109–193 |
| **157117** | **30** | **Clip** | 11893–473 |
| | **31** | **Machine Screw,** No. 14-24x3/8" Rd. Hd. Br. (C.N. 51686) (N.P.) | |
| | **32** | **Machine Screw,** No. 10-32x3/8" Rd. Hd. Br. (C.N. 51666) (N.P.) | |
| **207946** | **33** | **Gasket** | 8078–1636 |
| | **34** | **Tap Bolt,** 1/2"-13x1 1/4" Hex. Hd. (C.N. 46447) (Cad. Pl.) with 1/2" Plain S. Lock Washer (C.N. 47769) (Cad. Pl.) | |
| | **35** | **Gasket,** 3'-8" long (C.N. 65302) | |
| | **36** | **Machine Screw,** No. 10-32x5/8" Fil. Hd. S. (C.N. 52300) (Tin Pl.) | |
| | **37** | **Drive Screw,** No. 4x1/4" Rd. Hd. Hardened (C.N. 52501) (Cad. Pl.) | |
| | **38** | **Cotter Pin,** 1/16"x1/2" S. (C.N. 48603) (Tin Pl.) | |
| **208510** | **39** | **Receptacle Strap** | C–16647–5 |
| **208511** | **40** | **Receptacle Strap** | C–16647–5 |
| **208512** | **41** | **Receptacle Strap** | C–16647–5 |

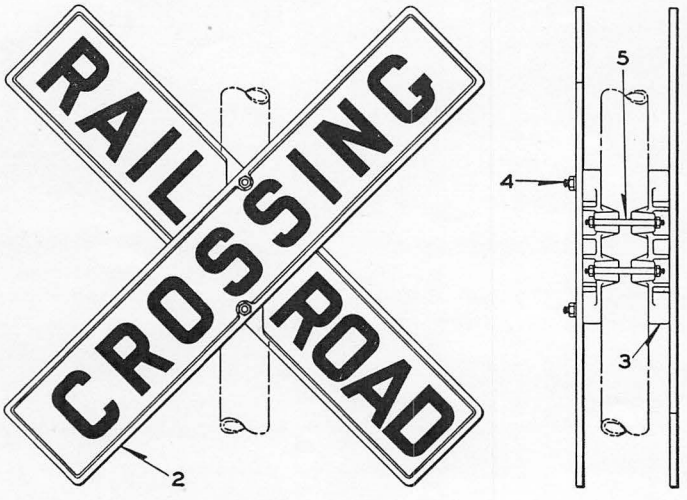
# Style "HC-9" Illuminated Sign

(Continued)

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **179004** | **42** | **Lamp Receptacle Complete** | 12415–40 |
| **192815** | **43** | **Washer** | 7828–377 |
| | **44** | **Machine Screw,** No. 8-36x$\frac{3}{8}$″ Fil. Hd. Br. (C.N. 51263) (N.P.) with Nut Ref. 44a. | |
| **32498** | **44a** | **Nut** | 8109–223 |
| | **45** | **Rivet,** $\frac{5}{32}$″x$\frac{5}{16}$″ Rd. Hd. Ph. Bz. (C.N. 49081) (N.P.) | |
| **147988** | **46** | **Clip** | 11893–393 |
| **54920** | **47** | **Rivet** | 10301–1 |
| **208513** | **48** | **Lead Complete** | B–9991–14 |
| **177710** | **49** | **Locking Stud** (For Raco Key) Not shown | 8114–803 |
| **175067** | **50** | **Lamp Bulb,** 10-Volts, 25-Watts | 12409–12 |
| **216241** | **51** | **Background,** 2′-6″ diameter | C–16647–4 |
| | **52** | **Tap Bolt,** $\frac{3}{8}$″x$\frac{3}{4}$″ Hex. Hd. S. (C.N. 46424) (Cad. Pl.) with $\frac{3}{8}$″ Plain S. Lock Washer (C.N. 47768) (Cad. Pl.) and $\frac{3}{8}$″ Std. Plate Washer (C.N. 47502) (Cad. Pl.) for attaching Background to Door | |
| | **53** | **Foundation Bolt** Ref. 53a with 1″ Hex. Nut (C.N. 48034) and 1″ S. Plate Washer (C.N. 47509) | |
| **209989** | **53a** | **Foundation Bolt Only,** 1″x18″ | 7913–388 |
| | **54** | **Foundation Bolt** Ref. 54a with 1″ Hex. Nut (C.N. 48034) and 1″ S. Plate Washer (C.N. 47509) | |
| **10265** | **54a** | **Foundation Bolt Only,** 1″x2′-0″ | 7913–52 |

UNION SWITCH & SIGNAL
DIVISION OF WESTINGHOUSE AIR BRAKE CO.

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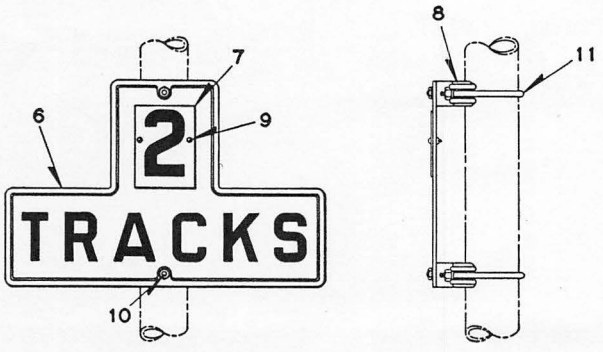



B

# Cast Iron Railroad Crossing and Tracks Signs

# Highway Crossing Signals

## DETAIL PARTS

# Cast Iron Railroad Crossing and Tracks Signs

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **186507** | **A** | **Cast Iron Railroad Crossing Sign Complete,** (Characters on both sides) with black letters on white background. (Includes Adapter Clamps Ref. 3 and mounting Bolts) (Orders should specify size of pipe post so proper mounting bolts will be furnished) | B–8912–103 |
| **186601** | **B** | **Cast Iron "Number" and "Tracks" Sign Complete,** (Characters on one side only) with black figures and letters on white background. (Includes Adapter Clamps Ref. 8 and U-Bolts) (Orders should specify numeral desired and size of pipe post so proper mounting bolts will be furnished) | B–8912–103 |
| **186107** | **2** | **Cast Iron Double Face Crossing Sign.** Black letters on white background | C–5844–10 |
| **186103** | **3** | **Adapter Clamp** | C–5844–9 |
| | **4** | **Bolt,** 5/8″x2 1/4″ Sq. Hd. (C.N. 46699) (Cad. Pl.) with 5/8″ Hex. Nut (C.N. 48020) (Cad. Pl.) and Washer (C.N. 47505) (Cad. Pl.) | |
| | **5** | **Bolt,** 1/2″x7″ Sq. Hd. S. (C.N. 46681) with 1/2″ Hex. Nut (C.N. 48013) (Cad. Pl.) and 1/2″ S. Plate Washer (C.N. 47503) (Cad. Pl.) for 4″ pipe | |
| | **5a** | **Bolt,** 1/2″x8 1/2″ Sq. Hd. S. (C.N. 46687) with 1/2″ Hex. Nut (C.N. 48013) (Cad. Pl.) and 1/2″ S. Plate Washer (C.N. 47503) (Cad. Pl.) for 5″ Pipe | |
| | **5b** | **Bolt,** 1/2″x9 1/2″ Sq. Hd. S. (C.N. 46690) with 1/2″ Hex. Nut (C.N. 48013) (Cad. Pl.) and 1/2″ S. Plate Washer (C.N. 47503) (Cad. Pl.) for 6″ pipe | |
| | **5c** | **Bolt,** Ref. 5d with 1/2″ Hex. Nut (C.N. 48013) (Cad. Pl.) and 1/2″ S. Plate Washer (C.N. 47503) (Cad. Pl.) for 8″ pipe | |
| **218013** | **5d** | **Bolt Only** | 8280–193 |
| **186531** | **6** | **Cast Iron "Tracks" Sign** | C–5844–11 |
| | **7** | **Number Plate** (Orders should specify numeral desired) | B–9513–15 |

# Highway Crossing Signals

## DETAIL PARTS

# Cast Iron Railroad Crossing and Tracks Signs

(Continued)

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **180354** | **8** | **Adapter Clamp** | C–9361–19 |
| | **9** | **Screw** Ref. 9a with Nut Ref. 9b and Washer Ref. 9c | |
| **186603** | **9a** | **Screw Only** | 8190–235 |
| **186074** | **9b** | **Nut** | 8109–474 |
| **29104** | **9c** | **Washer** | 7828–138 |
| | **10** | **Bolt,** $\frac{5}{8}$″x2$\frac{1}{4}$″ Sq. Hd. (C.N. 46699) (Cad. Pl. double thickness) with $\frac{5}{8}$″ Hex. Nut (C.N. 48104) (Cad. Pl. double thickness) and S. Plate Washer (C.N. 47505) (Cad. Pl. double thickness) | |
| | **11** | **Set of Fittings** for mounting Tracks Signs to 3″ Pipe Post (Inc. 2-11g, four $\frac{1}{2}$″ Hex. Nuts (C.N. 48013) (Cad. Pl.) and four $\frac{1}{2}$″ Plate Washers (C.N. 47503) (Cad. Pl.) | C–9451– |
| | **11a** | **Set of Fittings** for mounting Tracks Signs to 3$\frac{1}{2}$″ Pipe Post (Inc. 2-11h, four $\frac{1}{2}$″ Hex. Nuts (C.N. 48013) (Cad. Pl.) and four $\frac{1}{2}$″ Plate Washers (C.N. 47503) (Cad. Pl.) | C–9451– |
| **290785** | **11b** | **Set of Fittings** for mounting Tracks Signs to 4″ Pipe Post (Inc. 2-11j, four $\frac{1}{2}$″ Hex. Nuts (C.N. 48013) (Cad. Pl.) and four $\frac{1}{2}$″ Plate Washers (C.N. 47503) (Cad. Pl.) | C–9451–1 |
| **290786** | **11c** | **Set of Fittings** for mounting Tracks Signs to 5″ Pipe Post (Inc. 2-11k, four $\frac{1}{2}$″ Hex. Nuts (C.N. 48013) (Cad. Pl.) and four $\frac{1}{2}$″ Plate Washers (C.N. 47503) (Cad. Pl.) | C–9451–1 |
| **290787** | **11d** | **Set of Fittings** for mounting Tracks Signs to 6″ Pipe Post (Inc. 2-11m, four $\frac{1}{2}$″ Hex. Nuts (C.N. 48013) (Cad. Pl.) and four $\frac{1}{2}$″ Plate Washers (C.N. 47503) (Cad. Pl.) | C–9451–1 |
| **290788** | **11e** | **Set of Fittings** for mounting Tracks Signs to 7″ Pipe Post (Inc. 2-11n, four $\frac{1}{2}$″ Hex. Nuts (C.N. 48013) (Cad. Pl.) and four $\frac{1}{2}$″ Plate Washers (C.N. 47503) (Cad. Pl.) | C–9451–1 |

# Highway Crossing Signals

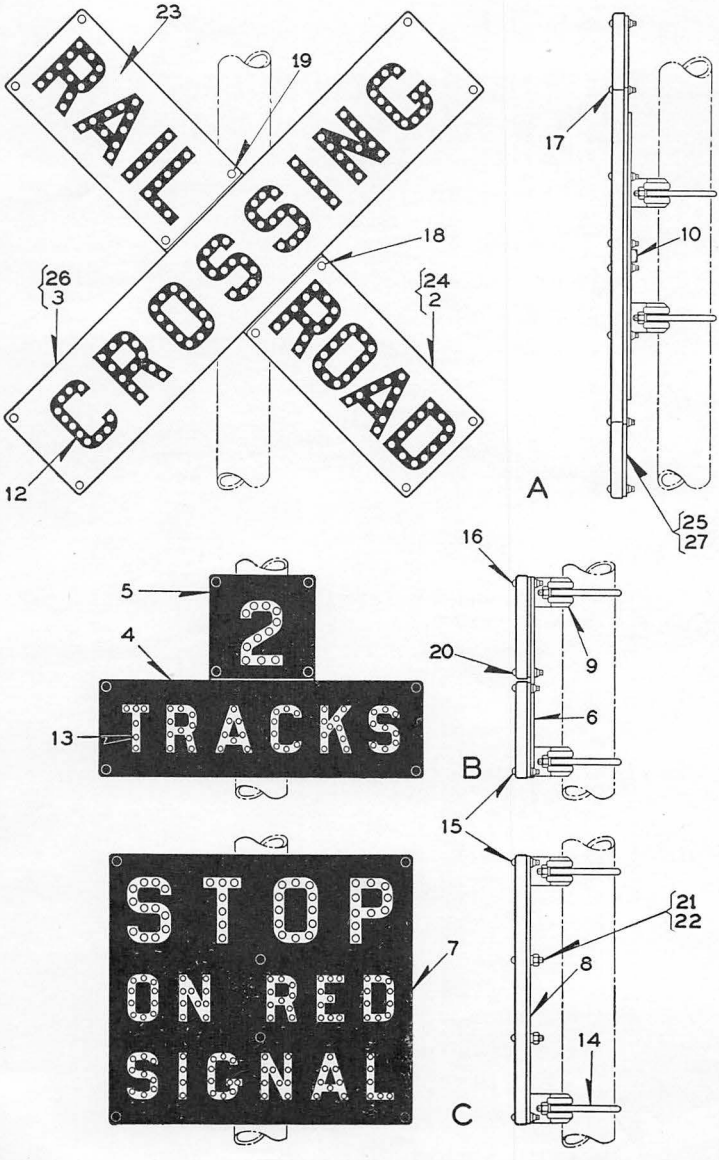
## DETAIL PARTS

## Cast Iron Railroad Crossing and Tracks Signs

(Continued)

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **290789** | **11f** | **Set of Fittings** for mounting Tracks Signs to 8″ Pipe Post (Inc. 2-11p, four ½″ Hex. Nuts (C.N. 48013) (Cad. Pl.) and four ½″ Plate Washers (C.N. 47503) (Cad. Pl.) | C–9451–1 |
| **183259** | **11g** | **U-Bolt** for 3″ Pipe Post | 8782–193 |
| **147109** | **11h** | **U-Bolt** for 3½″ Pipe Post | 8782–178 |
| **172193** | **11j** | **U-Bolt** for 4″ Pipe Post | 8782–108 |
| **183844** | **11k** | **U-Bolt** for 5″ Pipe Post | 8782–195 |
| **215790** | **11m** | **U-Bolt** for 6″ Pipe Post | 8782–175 |
| **267637** | **11n** | **U-Bolt** (Hinged) for 7″ Pipe Post | 8782–237 |
| **215089** | **11p** | **U-Bolt** (Hinged) for 8″ Pipe Post | 8782–219 |




# Reflector Button Type Railroad Crossing, Tracks and Stop Signs

# Highway Crossing Signals

## DETAIL PARTS

# Reflector Button Type Railroad Crossing, Tracks and Stop Signs

### Orders Should Specify Size of Pipe Post to Which Signs Are to be Mounted.

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **192180** | **A** | **Railroad Crossing Sign (Reflector Button Type) Complete,** (Vitreous enamel, characters on one side only) with black letters on white background, painted back plate. (Includes adapter clamps Ref. 9 and U-Bolts) (Orders should specify size of pipe post so proper mounting bolts will be furnished)... | C–9451–4 |
| **192138** | **B** | **"Number" and "Tracks" Sign (Reflector Button Type) Complete,** (Vitreous enamel, characters on one side only) with white figure and letters on black background, painted back plate. (Includes adapter clamps Ref. 9 and U-Bolts) (Orders should specify numeral desired and size of pipe post so proper mounting bolts will be furnished)..... | C–9451–3 |
| **192119** | **C** | **"Stop on Red Signal" Sign (Reflector Button Type) Complete,** (Vitreous enamel, characters on one side only) with white letters on black background, painted back plate. (Includes adapter clamps Ref. 9 and U-Bolts) (Orders should specify size of pipe post so proper mounting bolts will be furnished)... | C–9451–1 |
| **211138** | **2** | **"Railroad" Sign, Complete** (Includes Reflector Buttons)..... | C–9451–2 |
| **211137** | **3** | **"Crossing" Sign, Complete** (Includes Reflector Buttons)..... | C–9451–2 |
| **192030** | **4** | **"Tracks" Front Plate Only**..... | C–9450–25 |
| | **5** | **"Number" Front Plate Only** (Orders should specify numeral desired)..... | C–9451–3 |
| **187140** | **6** | **Back Plate, Complete** for Ref. B..... | C–9450–11 |
| **192027** | **7** | **Front Plate Only** for Ref. C..... | C–9450–23 |
| **187138** | **8** | **Back Plate, Complete** for Ref. C..... | C–9450–2 |
| **180354** | **9** | **Adapter Clamp**..... | C–9361–19 |

# Highway Crossing Signals

## DETAIL PARTS

## Reflector Button Type Railroad Crossing, Tracks and Stop Signs

**(Continued)**

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | 10 | **Tap Bolt,** $\frac{5}{8}$″x1$\frac{1}{4}$″ Sq. Hd. S. (C.N. 46562) (Cad. Pl.) with $\frac{5}{8}$″ Hex. Nut (C.N. 48020) (Cad. Pl.) and $\frac{11}{16}$″ x1$\frac{1}{4}$″x$\frac{1}{16}$″ S. Plate Washer (C.N. 47505) (Cad. Pl.) for Ref. A | |
| | 11 | **Bolt,** $\frac{5}{8}$″x2″ Sq. Hd. S. (C.N. 46697) (Cad. Pl.) with $\frac{5}{8}$″ Hex. Nut (C.N. 48020) (Cad. Pl.) and $\frac{11}{16}$″x 1$\frac{1}{4}$″x$\frac{1}{16}$″ S. Plate Washer (C.N. 47505) (Cad. Pl.) for Refs. A, B and C for attaching signs to bracket (Not shown) | |
| | 12 | **Reflector Button (Crystal)** with sleeve and spring (Fits in $\frac{45}{64}$″ diameter hole) for "RAILROAD CROSSING" sign, numeral of tracks sign and word "STOP" | 12723–3 |
| | 13 | **Reflector Button (Crystal)** with sleeve and spring (Fits in $\frac{33}{64}$″ diameter hole) for words "TRACKS", "ON", "RED" and "SIGNAL" | 12723–4 |
| | 14 | **Set of Fittings** for mounting Signs to 3″ Pipe Post (Inc. 2-14g, four ½″ Hex. Nuts (C.N. 48013) (Cad. Pl.) and four ½″ Plate Washers (C.N. 47503) (Cad. Pl.) | C–9451– |
| | 14a | **Set of Fittings** for mounting Signs to 3½″ Pipe Post (Inc. 2-14h, four ½″ Hex. Nuts (C.N. 48013) (Cad. Pl.) and four ½″ Plate Washers (C.N. 47503) (Cad. Pl.) | C–9451– |
| 290785 | 14b | **Set of Fittings** for mounting Signs to 4″ Pipe Post (Inc. 2-14j, four ½″ Hex. Nuts (C.N. 48013) (Cad. Pl.) and four ½″ Plate Washers (C.N. 47503) (Cad. Pl.) | C–9451–1 |
| 290786 | 14c | **Set of Fittings** for mounting Signs to 5″ Pipe Post (Inc. 2-14k, four ½″ Hex. Nuts (C.N. 48013) (Cad. Pl.) and four ½″ Plate Washers (C.N. 47503) (Cad. Pl.) | C–9451–1 |
| 290787 | 14d | **Set of Fittings** for mounting Signs to 6″ Pipe Post (Inc. 2-14m, four ½″ Hex. Nuts (C.N. 48013) (Cad. Pl.) and four ½″ Plate Washers (C.N. 47503) (Cad. Pl.) | C–9451–1 |

# Highway Crossing Signals

## DETAIL PARTS

## Reflector Button Type Railroad Crossing, Tracks and Stop Signs

**(Continued)**

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **290788** | **14e** | **Set of Fittings** for mounting Signs to 7″ Pipe Post (Inc. 2-14n, four ½″ Hex. Nuts (C.N. 48013) (Cad. Pl.) and four ½″ Plate Washers (C.N. 47503) (Cad. Pl.) | C–9451–1 |
| **290789** | **14f** | **Set of Fittings** for mounting Signs to 8″ Pipe Post (Inc. 2-14p, four ½″ Hex. Nuts (C.N. 48013) (Cad. Pl.) and four ½″ Plate Washers (C.N. 47503) (Cad. Pl.) | C–9451–1 |
| **183259** | **14g** | **U-Bolt** for 3″ Pipe Post | 8782–193 |
| **147109** | **14h** | **U-Bolt** for 3½″ Pipe Post | 8782–178 |
| **172193** | **14j** | **U-Bolt** for 4″ Pipe Post | 8782–108 |
| **183844** | **14k** | **U-Bolt** for 5″ Pipe Post | 8782–195 |
| **215790** | **14m** | **U-Bolt** for 6″ Pipe Post | 8782–175 |
| **267637** | **14n** | **U-Bolt** (Hinged) for 7″ Pipe Post | 8782–237 |
| **215089** | **14p** | **U-Bolt** (Hinged) for 8″ Pipe Post | 8782–219 |
| | **15** | **Screw** Ref. 15a with Nut Ref. 15b and Washer Ref. 15c | 12471– |
| **186481** | **15a** | **Screw Only** | 8190–235 |
| **186074** | **15b** | **Nut** | 8109–474 |
| **29104** | **15c** | **Washer** | 7828–138 |
| | **16** | **Screw** Ref. 16a with Nut Ref. 16b and Washer Ref. 15c | 12471– |
| **186432** | **16a** | **Screw Only** | 8190–235 |
| **1643** | **16b** | **Nut** | 8109–55 |
| | **17** | **Screw** Ref. 17a with Nut Ref. 15b and Washer Ref. 15c | 12471– |

# Highway Crossing Signals

## DETAIL PARTS

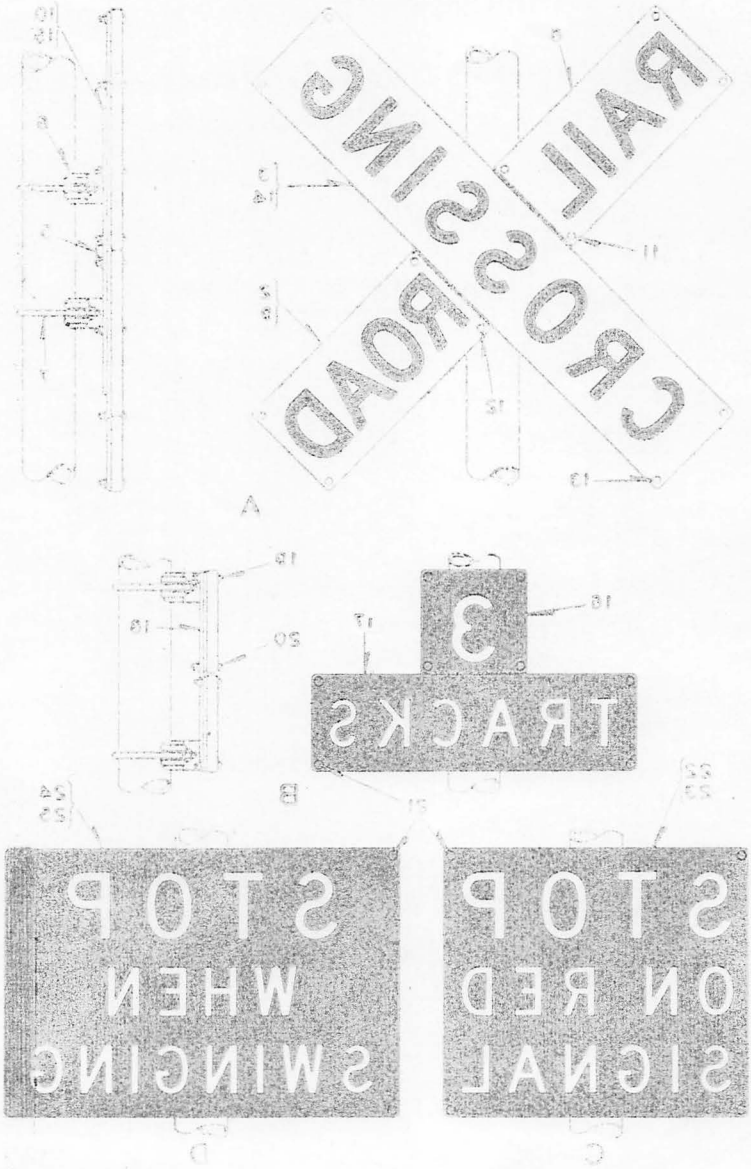
## Reflector Button Type Railroad Crossing, Tracks and Stop Signs

(Continued)

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

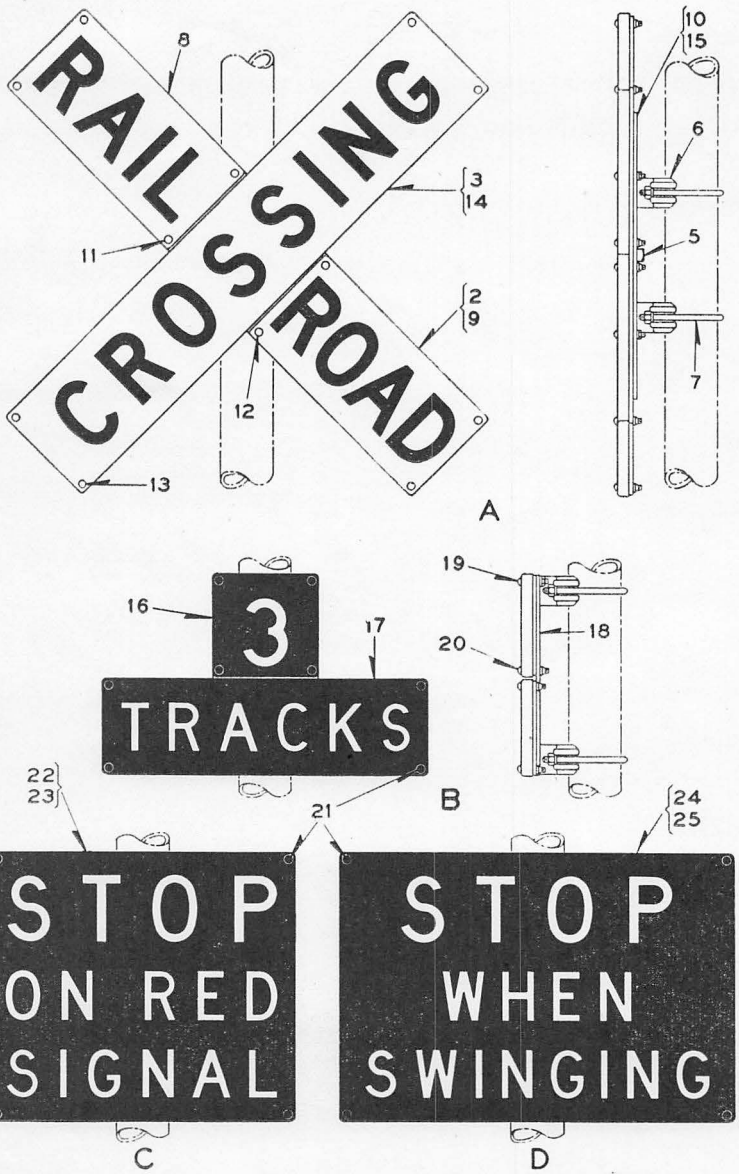
| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **186761** | **17a** | **Screw Only** | 8190–235 |
| | **18** | **Screw** Ref. 18a with Nut Ref. 15b and Washer Ref. 15c | 12471– |
| **211143** | **18a** | **Screw Only** | 8190–235 |
| | **19** | **Screw** Ref. 18a with Nut Ref. 16b and Washer Ref. 15c | 12471– |
| | **20** | **Screw** Ref. 16a with Nut Ref. 15b and Washer Ref. 15c | 12471– |
| | **21** | **Screw** Ref. 15a with Nut Ref. 16b and Washer Ref. 15c | 12471– |
| **192391** | **22** | **Spacer** for use with Ref. 21 | B–10333–1 |
| **211141** | **23** | **"Rail"** Front Plate Only | C–9450–27 |
| **211142** | **24** | **"Road"** Front Plate Only | C–9450–27 |
| **187151** | **25** | **"Railroad"** Back Plate | C–9450–10 |
| **211140** | **26** | **"Crossing"** Front Plate Only | C–9450–27 |
| **187150** | **27** | **"Crossing"** Back Plate | C–9450–10 |

## MEMORANDA




Reflex-Reflecting Type Railroad
Crossing and Tracks Signs (Box Type)

UNION SWITCH & SIGNAL
DIVISION OF WESTINGHOUSE AIR BRAKE CO.




# Reflex-Reflecting Type Railroad Crossing and Tracks Signs (Box Type)

# Highway Crossing Signals

## DETAIL PARTS

# Reflex-Reflecting Type Railroad Crossing and Tracks Signs (Box Type)

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **301942** | **A** | **90° Reflex - Reflecting Type Railroad Crossing Sign Complete,** with black letters on white reflecting background (Includes Adapter Clamps and U-Bolts) (Orders should specify size of pipe post so proper mounting bolts will be furnished) (Fig. 164210, A.A.R. Dwg. 1642F) | C–16987–6 |
| **301947** | **B** | **Reflex - Reflecting Type "Number" and "Tracks" Sign Complete,** with white reflecting figures and letters on black background (Includes Adapter Clamps and U-Bolts) (Orders should specify numeral desired and size of pipe post so proper mounting bolts will be furnished) (Fig. 164514, A.A.R. Dwg. 1645E) | C–16987–9 |
| **301944** | **C** | **Reflex - Reflecting Type "Stop on Red Signal" Sign Complete,** with white reflecting letters on black background (Includes Adapter Clamps and U-Bolts) (Orders should specify size of pipe post so proper mounting bolts will be furnished) (Fig. 16469, A.A.R. Dwg. 1646E) | C–16987–7 |
| **301946** | **D** | **Reflex - Reflecting Type "Stop when Swinging" Sign Complete,** with white reflecting letters on black background (Includes Adapter Clamps and U-Bolts) (Orders should specify size of pipe post so proper mounting bolts will be furnished) (Fig. 16489, A.A.R. Dwg. 1648E) | C–16987–8 |
| **301925** | **2** | **"Railroad" Sign Complete** | C–16988–9 |
| **301924** | **3** | **"Crossing" Sign Complete** | C–16988–9 |
| | **4** | **Bolt,** $\frac{5}{8}$"x2" Sq. Hd. S. (C.N. 46697) (Cad. Pl.) with $\frac{5}{8}$" Hex. Nut (C.N. 48020) (Cad. Pl.) and $\frac{11}{16}$" S. Plate Washer (C.N. 47505) (Cad. Pl.) for Refs. A, B, C and D for attaching signs to bracket (Not shown) | |
| | **5** | **Tap Bolt,** $\frac{5}{8}$"x1$\frac{1}{4}$" Sq. Hd. S. (C.N. 46562) (Cad. Pl.) with $\frac{5}{8}$" Hex. Nut (C.N. 48020) (Cad. Pl.) and $\frac{11}{16}$" S. Plate Washer (C.N. 47505) (Cad. Pl.) | |
| **180354** | **6** | **Adapter Clamp** | C–9361–19 |

# Highway Crossing Signals

## DETAIL PARTS

## Reflex-Reflecting Type Railroad Crossing and Tracks Signs (Box Type)

(Continued)

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **290785** | **7** | **Set of Fittings** for mounting Signs to 4″ Pipe Post (Inc. 2-7e, four ½″ Hex. Nuts (C.N. 48013) (Cad. Pl.) and four ½″ Plate Washers (C.N. 47503) (Cad. Pl.) | C–9451–1 |
| **290786** | **7a** | **Set of Fittings** for mounting Signs to 5″ Pipe Post (Inc. 2-7f, four ½″ Hex. Nuts (C.N. 48013) (Cad. Pl.) and four ½″ Plate Washers (C.N. 47503) (Cad. Pl.) | C–9451–1 |
| **290787** | **7b** | **Set of Fittings** for mounting Signs to 6″ Pipe Post (Inc. 2-7g, four ½″ Hex. Nuts (C.N. 48013) (Cad. Pl.) and four ½″ Plate Washers (C.N. 47503) (Cad. Pl.) | C–9451–1 |
| **290788** | **7c** | **Set of Fittings** for mounting Signs to 7″ Pipe Post (Inc. 2-7h, four ½″ Hex. Nuts (C.N. 48013) (Cad. Pl.) and four ½″ Plate Washers (C.N. 47503) (Cad. Pl.) | C–9451–1 |
| **290789** | **7d** | **Set of Fittings** for mounting Signs to 8″ Pipe Post (Inc. 2-7j, four ½″ Hex. Nuts (C.N. 48013) (Cad. Pl.) and four ½″ Plate Washers (C.N. 47503) (Cad. Pl.) | C–9451–1 |
| **172193** | **7e** | **U-Bolt** for 4″ Pipe Post | 8782–108 |
| **183844** | **7f** | **U-Bolt** for 5″ Pipe Post | 8782–195 |
| **215790** | **7g** | **U-Bolt** for 6″ Pipe Post | 8782–175 |
| **267637** | **7h** | **U-Bolt** (Hinged) for 7″ Pipe Post | 8782–237 |
| **215089** | **7j** | **U-Bolt** (Hinged) for 8″ Pipe Post | 8782–219 |
| **301921** | **8** | **"Rail" Front Plate** | C–16988–8 |
| **301923** | **9** | **"Road" Front Plate** | C–16988–8 |
| **187151** | **10** | **"Railroad" Back Plate Complete** | C–9450–10 |
| | **11** | **Screw** Ref. 11a with **Washer** Ref. 11b and **Nut** Ref. 11c | 12471– |

# Highway Crossing Signals
## DETAIL PARTS
## Reflex-Reflecting Type Railroad Crossing and Tracks Signs (Box Type)
(Continued)

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **211143** | **11a** | **Screw Only** | 8190–235 |
| **29104** | **11b** | **Washer** | 7828–138 |
| **186074** | **11c** | **Nut** | 8109–474 |
| | **12** | **Screw** Ref. 11a with Washer Ref. 11b and Nut Ref. 12a | 12471– |
| **1643** | **12a** | **Nut** | 8109–55 |
| | **13** | **Screw** Ref. 13a with Washer Ref. 11b and Nut Ref. 13b | 12471– |
| **186761** | **13a** | **Screw Only** | 8190–235 |
| **186074** | **13b** | **Nut** | 8109–474 |
| **301919** | **14** | **"Crossing" Front Plate** | C–16988–8 |
| **187150** | **15** | **"Crossing" Back Plate** | C–9450–10 |
| | **16** | **"Number" Front Plate** (Orders should specify numeral desired) | C–16988–11 |
| **301929** | **17** | **"Tracks" Front Plate** | C–16988–11 |
| **187140** | **18** | **Back Plate Complete** for Ref. B | C–9450–11 |
| | **19** | **Screw** Ref. 19a with Washer Ref. 11b and Nut Ref. 12a | 12471– |
| **186432** | **19a** | **Screw Only** | 8190–235 |
| | **20** | **Screw** Ref. 19a with Washer Ref. 11b and Nut Ref. 13b | 12471– |
| | **21** | **Screw** Ref. 21a with Washer Ref. 11b and Nut Ref. 13b | 12471– |
| **186481** | **21a** | **Screw Only** | 8190–235 |
| **301917** | **22** | **"Stop on Red Signal" Front Plate** | C–16988–7 |
| **187138** | **23** | **Back Plate** for Ref. C | C–9450–2 |
| **301927** | **24** | **"Stop when Swinging" Front Plate** | C–16988–10 |
| **198167** | **25** | **Back Plate** for Ref. D | C–9450–32 |

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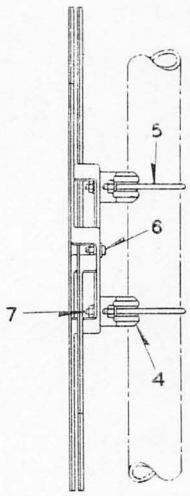
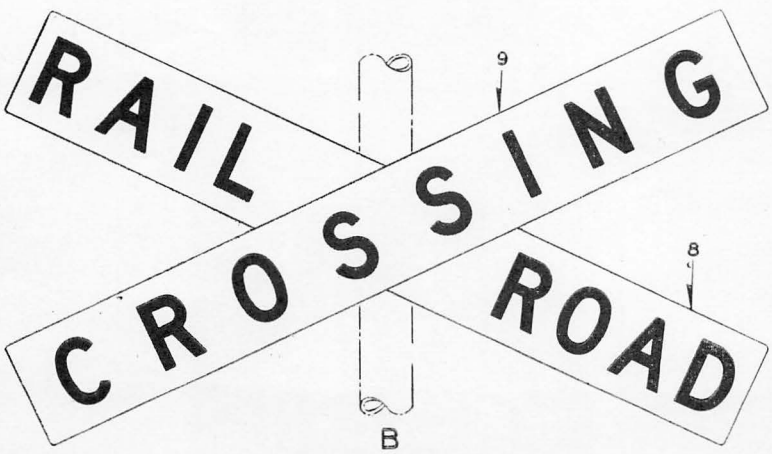
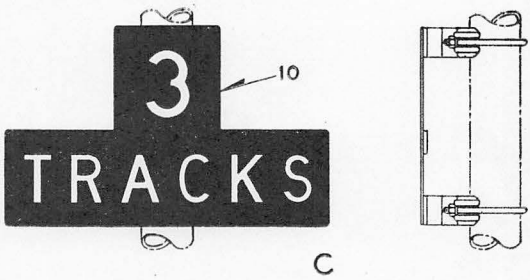
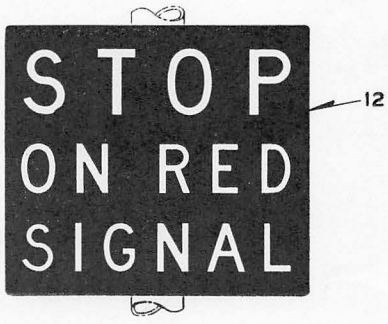


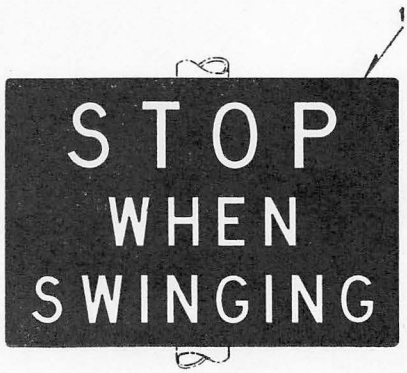

**Reflex-Reflecting Type Sheet Steel Railroad Crossing and Tracks Signs**




C




D




E

# Reflex-Reflecting Type Sheet Steel Railroad Crossing and Tracks Signs

# Highway Crossing Signals

## DETAIL PARTS

# Reflex-Reflecting Type Sheet Steel Railroad Crossing and Tracks Signs

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **297344** | **A** | **90° Reflex - Reflecting Type Sheet Steel Railroad Crossing Sign Complete,** with black letters on white reflecting background (Includes Adapter Clamps and U-Bolts) (Orders should specify size of pipe post so proper mounting bolts will be furnished) (Fig. 17171, A.A.R. Dwg. 1717A) | C–16987–1 |
| **297351** | **B** | **50° Reflex - Reflecting Type Sheet Steel Railroad Crossing Sign Complete,** with black letters on white reflecting background (Includes Adapter Clamps and U-Bolts) (Orders should specify size of pipe post so proper mounting bolts will be furnished) (Fig. 17151, A.A.R. Dwg. 1715A) | C–16987–2 |
| **297410** | **C** | **Reflex - Reflecting Type Sheet Steel "Number" and "Tracks" Sign Complete,** with white reflecting figures and letters on black background (Includes Adapter Clamps and U-Bolts) (Orders should specify numeral desired and size of pipe post so proper mounting bolts will be furnished) (Fig. 17191, A.A.R. Dwg. 1719A) | C–16987–5 |
| **297352** | **D** | **Reflex - Reflecting Type Sheet Steel "Stop on Red Signal" Sign Complete,** with white reflecting letters on black background (Includes Adapter Clamps and U-Bolts) (Orders should specify size of pipe post so proper mounting bolts will be furnished) (Fig. 17201, A.A.R. Dwg. 1720A) | C–16987–3 |
| **297353** | **E** | **Reflex - Reflecting Type Sheet Steel "Stop when Swinging" Sign Complete,** with white reflecting letters on black background (Includes Adapter Clamps and U-Bolts) (Orders should specify size of pipe post so proper mounting bolts will be furnished) (Fig. 17211, A.A.R. Dwg. 1721A) | C–16987–4 |
| **297329** | **2** | **"Railroad" Sign** | C–16988–17 |
| **297327** | **3** | **"Crossing" Sign** | C–16988–17 |
| **180354** | **4** | **Adapter Clamp** | C–9361–19 |

# Highway Crossing Signals

## DETAIL PARTS

## Reflex-Reflecting Type Sheet Steel Railroad Crossing and Tracks Signs

**(Continued)**

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **290785** | **5** | **Set of Fittings** for mounting Signs to 4″ Pipe Post (Inc. 2-5e, four ½″ Hex. Nuts (C.N. 48013) (Cad. Pl.) and four ½″ Plate Washers (C.N. 47503) (Cad. Pl.) | C–9451–1 |
| **290786** | **5a** | **Set of Fittings** for mounting Signs to 5″ Pipe Post (Inc. 2-5f, four ½″ Hex. Nuts (C.N. 48013) (Cad. Pl.) and four ½″ Plate Washers (C.N. 47503) (Cad. Pl.) | C–9451–1 |
| **290787** | **5b** | **Set of Fittings** for mounting Signs to 6″ Pipe Post (Inc. 2-5g, four ½″ Hex. Nuts (C.N. 48013) (Cad. Pl.) and four ½″ Plate Washers (C.N. 47503) (Cad. Pl.) | C–9451–1 |
| **290788** | **5c** | **Set of Fittings** for mounting Signs to 7″ Pipe Post (Inc. 2-5h, four ½″ Hex. Nuts (C.N. 48013) (Cad. Pl.) and four ½″ Plate Washers (C.N. 47503) (Cad. Pl.) | C–9451–1 |
| **290789** | **5d** | **Set of Fittings** for mounting Signs to 8″ Pipe Post (Inc. 2-5j, four ½″ Hex. Nuts (C.N. 48013) (Cad. Pl.) and four ½″ Plate Washers (C.N. 47503) (Cad. Pl.) | C–9451–1 |
| **172193** | **5e** | **U-Bolt** for 4″ Pipe Post | 8782–108 |
| **183844** | **5f** | **U-Bolt** for 5″ Pipe Post | 8782–195 |
| **215790** | **5g** | **U-Bolt** for 6″ Pipe Post | 8782–175 |
| **267637** | **5h** | **U-Bolt** (Hinged) for 7″ Pipe Post | 8782–237 |
| **215089** | **5j** | **U-Bolt** (Hinged) for 8″ Pipe Post | 8782–219 |
| | **6** | **Bolt,** ⅝″-11x1½″ Sq. Hd. S. (C.N. 46695) (Cad. Pl.) with ⅝″ Hex. Nut (C.N. 48020) (Cad. Pl.) and $\frac{11}{16}$″ S. Plate Washer (C.N. 47505) (Cad. Pl.) | |
| | **7** | **Bolt,** ⅝″-11x2¼″ Sq. Hd. S. (C.N. 46699) (Cad. Pl.) with ⅝″ Hex. Nut (C.N. 48020) (Cad. Pl.) and $\frac{11}{16}$″ S. Plate Washer (C.N. 47505) (Cad. Pl.) | |

# Railroad Crossing Signals

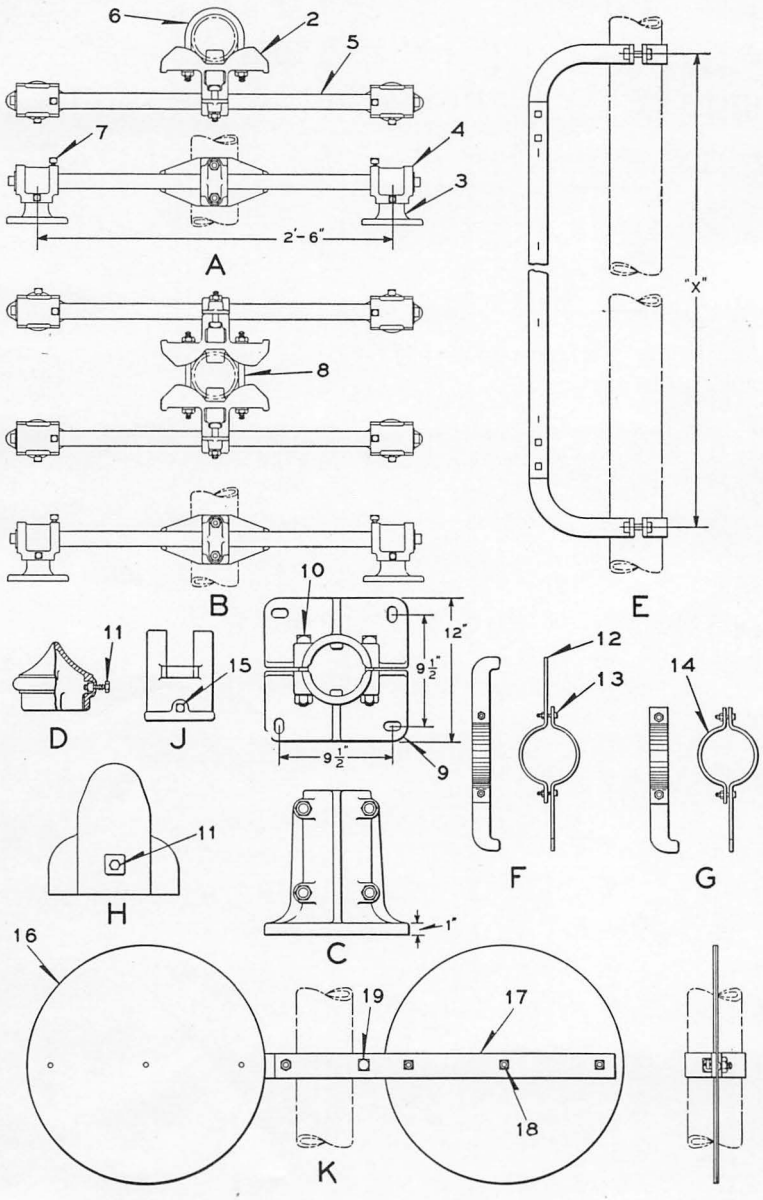
## DETAIL PARTS

# Reflex-Reflecting Type Sheet Steel Railroad Crossing and Tracks Signs

(Continued)

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **297333** | 8 | **"Railroad" Sign** | C–16988–12 |
| **297331** | 9 | **"Crossing" Sign** | C–16988–12 |
| | 10 | **"Number" and "Tracks" Sign Complete** (Does not include mounting fittings) Orders should specify numeral desired | C–16987–5 |
| | 11 | **Bolt,** $\frac{5}{8}$"-11x2" Sq. Hd. S. (C.N. 46697) (Cad. Pl.) with $\frac{5}{8}$" Hex. Nut (C.N. 48020) (Cad. Pl.) and $\frac{11}{16}$" S. Plate Washer (C.N. 47505) (Cad. Pl.) For attaching "Number" and "Tracks", "Stop on Red Signal" and "Stop When Swinging" Signs to Adapter Clamp (Not shown) | |
| **297335** | 12 | **"Stop on Red Signal" Sign Complete** (Does not include mounting fittings) | C–16988–18 |
| **297337** | 13 | **"Stop When Swinging" Sign Complete** (Does not include mounting fittings) | C–16988–19 |




# Supporting Arms, Pinnacles, Bases, Ladders, etc.

# Highway Crossing Signals

## DETAIL PARTS

## Supporting Arms, Pinnacles, Bases, Ladders, etc.

**If material listed on this Plate is required for other than 4" pipe post, orders should so state.**

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| | **A** | **Supporting Arm Complete** (1¼" diameter) for attaching two lamp units to 4" pipe post | C–8964– |
| | **B** | **Supporting Arm Complete** (1¼" diameter) for attaching four lamp units to 4" pipe post | C–8964– |
| **136947** | **C** | **Clamp Base Complete** with Bolts and Nuts, for 4" pipe post | C–6634–7 |
| **145739** | **D** | **Pinnacle Complete** with Tap Bolt and Nut, for 4" pipe post | B–8121–10 |
| **168877** | **Da** | **Pinnacle Complete** with Tap Bolt and Nut, for 6" pipe post | B–8121–18 |
| **215093** | **Db** | **Pinnacle Complete** with Tap Bolt and Nut, for 8" pipe post | B–8121–19 |
| | **E** | **Ladder Complete** for 4" pipe post (Orders should specify "X" dimension) | B–10313– |
| **199590** | **F** | **Double Step Complete** for 4" pipe post | 12536–9 |
| **156882** | **G** | **Single Step Complete** for 4" pipe post | 12536–9 |
| **72394** | **H** | **Cable Cap Complete** with Tap Bolt and Nut | C–6041–1 |
| **123908** | **J** | **Post Head Complete** with Set Screw for attaching Cable Cap Ref. H to 4" pipe post | C–6041–14 |
| | **K** | **Background Complete** as shown for 4" pipe post | C–8964–99 |
| **121451** | **2** | **Adapter and Cap Complete** (Includes 1-2a, 1-2b and 2-2c) | C–8964–20 |
| **121412** | **2a** | **Adapter Only** | C–8964–20 |
| **121413** | **2b** | **Cap** | C–8964–20 |
| | **2c** | **Bolt,** ½"x2¾" Sq. Hd. S. (C.N. 46663) with ½" Hex. Nut (C.N. 48013) and ½" Plain S. Lock Washer (C.N. 47536) for attaching Cap Ref. 2b to Adapter Ref. 2a | |

# Highway Crossing Signals
## DETAIL PARTS
## Supporting Arms, Pinnacles, Bases, Ladders, etc.

(Continued)

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **130913** | **3** | **Lamp Unit Support** | C–8964–27 |
| **148916** | **4** | **Reducing Tee Complete,** 1¼″x1¼″x1½″ (Includes Pipe Plug Ref. 4a) | C–8964–30 |
| | **4a** | **1¼″ C.I. Pipe Plug** | |
| **148015** | **5** | **Lamp Supporting Arm** | B–12477–6 |
| | **6** | **U-Bolt** Ref. 6a with ½″ S. Plate Washers (C.N. 47503) (Cad. Pl.) and ½″ Hex. Nuts (C.N. 48013) (Cad. Pl.) for attaching one Supporting Arm to 4″ pipe post | |
| **172193** | **6a** | **U-Bolt Only** | 8782–108 |
| | **7** | **Set Screw,** ½″x¾″ Sq. Hd. Cup Pt. I. (C.N. 50585) (Cad. Pl.) | |
| | **8** | **Bolt,** ½″x7″ Sq. Hd. (C.N. 46681) with two ½″ S. Plate Washers (C.N. 47503) (Cad. Pl.) and Hex. Nut (C.N. 48013) (Cad. Pl.) for attaching two Supporting Arms to 4″ pipe post | |
| **136946** | **9** | **Half Base** | C–6634–7 |
| | **10** | **Bolt,** ¾″x6″ Sq. Hd. S. (C.N. 46742) with ¾″ Hex. Nut (C.N. 48026) | |
| | **11** | **Tap Bolt,** ½″x1½″ Hex. Hd. (C.N. 50098) with ½″ Sq. Nut (C.N. 48240) | |
| **156880** | **12** | **Step Only** | 12536–9 |
| | **13** | **Bolt** Ref. 13a with ½″ Hex. Nut (C.N. 48013) | |
| **36830** | **13a** | **Bolt Only** | 8280–81 |
| **26991** | **14** | **Cap** | B–7501–8 |
| | **15** | **Set Screw,** ½″-13x1″ Sq. Hd. Cup Point | |
| **179583** | **16** | **Background** | C–8964–99 |
| **194824** | **17** | **Support** | C–8964–99 |
| | **18** | **Bolt,** ¼″x¾″ Rd. Hd. with Sq. Nut (C.N. 46933) and ¼″ Plain S. Lock Washer (C.N. 47521) | |
| | **19** | **Bolt,** ½″x1¾″ Sq. Hd. S. (C.N. 46658) with ½″ Hex. Nut (C.N. 48013) | |

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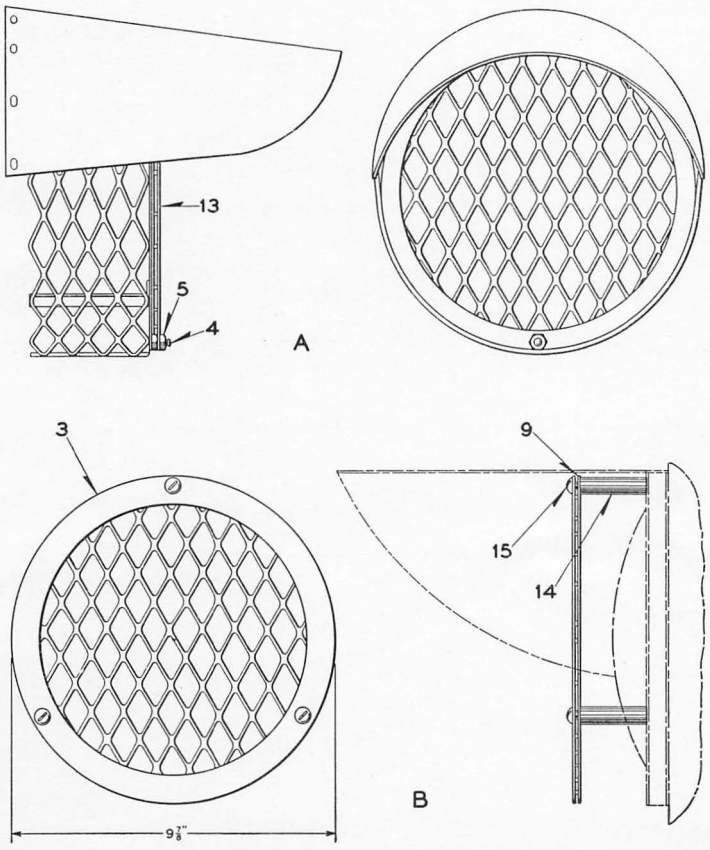


# Lens and Cover Glass Guards

# Highway Crossing Signals

## DETAIL PARTS

# Lens and Cover Glass Guards

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

**Combined Cover Glass Guard and Hood Complete**

| Piece | Ref. | Application | Remarks | Drawing Reference |
|---|---|---|---|---|
| **189844** | **A** | Styles "HC-5," "HC-51," "HC-52," "HC-7," "HC-71," "HC-72," "HC-8" and "HC-81" Highway Crossing Signals | With Front Screen Ref. 13 | C–8964–108 |
| **189755** | **Aa** | Styles "HC-5," "HC-51," "HC-52," "HC-7," "HC-71," "HC-72," "HC-8" and "HC-81" Highway Crossing Signals | Without Front Screen Ref. 13 | C–8964–108 |

**Lens Guard Complete with Front Screen**

| Piece | Ref. | Application | Remarks | Drawing Reference |
|---|---|---|---|---|
| **149816** | **B** | Styles "H," "H-2," "H-5," "P" and "R" Signals and one color "M" and "R" Marker Lights | For Signals without Deflecting Prisms | C–8901–94 |
| **149816** | **Ba** | Style "HC-2" Highway Crossing Signal | | C–8901–94 |
| **188389** | **Bb** | Styles "H," "H-2," "H-5," "P" and "R" Signals and one color "M" and "R" Marker Lights | For Signals with 9″ diameter Deflecting Prisms | C–8901–94 |
| **192658** | **Bc** | Styles "H," "H-2" and "H-5" Signals (Dwarf and High) | For Signals with 8⅜″ diameter Deflecting Prisms | C–8901–94 |
| **192659** | **Bd** | Styles "H," "H-2" and "H-5" Signals (Dwarf and High) | For Signals with 8⅜″ diameter inclined Deflecting Prisms | C–8901–94 |

# Highway Crossing Signals

## DETAIL PARTS

## Lens and Cover Glass Guards

(Continued)

**Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only**

| Piece | Ref. | Description | Drawing Reference |
|---|---|---|---|
| **149815** | **3** | **Lens Guard Complete** with Screen for Refs. B, Ba, Bc and Bd | C–8901–94 |
| **188388** | **3a** | **Lens Guard Complete** with Screen for Ref. Bb | C–8901–94 |
| | **4** | **Machine Screw,** No. 14-24x⅝″ Fil. Hd. Br. (C.N. 51341) (N.P.) with two Nuts Ref. 5 | 12471– |
| | **4a** | **Machine Screw,** No. 14-24x⅝″ Fil. Hd. Br. (C.N. 51341) (N.P.) | |
| **29103** | **5** | **Nut** | 8109–194 |
| **71187** | **9** | **Lens Ring** for Refs. B, Ba, Bc and Bd | 7436–106 |
| **90894** | **9a** | **Lens Ring** for Ref. Bb | 7436–105 |
| **106093** | **13** | **Front Screen Complete** | C–8901–125 |
| **210564** | **14** | **Bushing 3″ Long,** for Refs. B, Ba and Bb | 8072–650 |
| **145017** | **14a** | **Bushing 2″ Long,** for Refs. Bc and Bd | 8072–650 |
| | **15** | **Machine Screw,** No. 10-32x3⅝″ Rd. Hd. S. (Cad. Pl.) for Refs. B, Ba, Bb and Bc | |
| | **15a** | **Machine Screw,** No. 10-32x2½″ Rd. Hd. S. (C.N. 52570) (Cad. Pl.) for Ref. Bd | |